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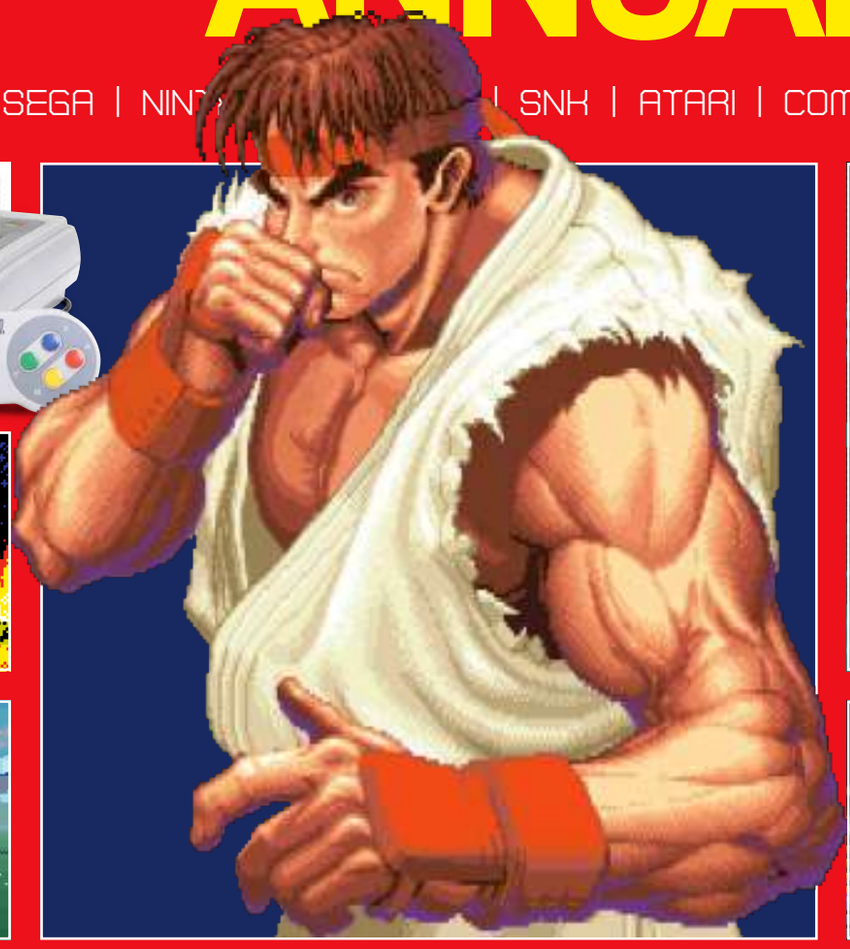

Digital Edition

FUTURE

VOLUME 9

WELCOME TO THE

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Retro gaming has never been as popular as it is now. Countless compilations are available to enjoy, classic games are being remade on a regular basis and various publishers are releasing retro-themed hardware. There's a host of magazines and books dedicated to the subject as well and it's satisfying to know that we've been there from the beginning, some 18 years now. We've broken all sorts of amazing stories during that time, and we're including the very best articles from our last year in this tremendous new tome. Whether you enjoy 8-bit computers like the ZX Spectrum and C64, classic arcade games like *Wonder Boy* and *After Burner*, or more modern retro franchises like *WipEout* and *Super Monkey Ball*, you're bound to find something you like inside.

FUTURE

retro GAMER ANNUAL

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retro GAMER ANNUAL

THE ULTIMATE GUIDE TO CLASSIC VIDEOGAMING

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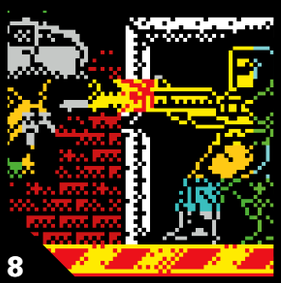
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40 YEARS OF THE ZX SPECTRUM

WORDS BY GRAEME MASON AND MARTYN CARROLL

When Sinclair launched the ZX Spectrum in April 1982 it would be inconceivable to those involved that we'd still be talking, writing and eulogising about it 40 years later. The Spectrum was launched at a time when demand for personal computers was growing and the cost of components was falling, which brought experimentation and innovation to the fore. Things were changing at such a pace that Sinclair adopted a 12-month hardware upgrade schedule. The clue was in the name: the ZX80 (1980) was followed by the ZX81 (1981), and the ZX82 and ZX83 were next in line.

Unlike the annual mobile device updates we see nowadays, these were no simple refreshes. The ZX81 was a silent, monochrome machine while the ZX82 added sound and colour capabilities. It was a clear step up and the addition of colour graphics prompted Sinclair to change the name from the ZX82 to the ZX Spectrum. But regardless of the new name, the Spectrum was still Sinclair's 1982 computer and a stepping stone to what was coming next, whether that was 32-bit or wafadrives or whatever was being cooked up in the Cambridge labs.

But as we all know, the Spectrum struck that fine balance between capability and cost. The sound was poor and the keyboard was *rubber* for God's sake, yet it outperformed many rival machines that were often costlier. The fast CPU, colour graphics and generous amount of memory also made it good for gaming. The result was a computer for the times that would go on to sell millions and play a significant role in the UK games industry. And so 40 years on, we celebrate the diminutive micro that defied the odds and refused to be superseded.

» Adventure game *The Hobbit* introduced a generation to interactive fiction and singing about gold.

» Excitement builds at an early computer fair.

"ANTICIPATION WAS BUILDING AND FINALLY, IN NOVEMBER, THE GAMES BEGAN TO APPEAR"

:TRUM

AS THE ZX SPECTRUM CELEBRATES ITS 40TH ANNIVERSARY, RETRO GAMER MARKS THE OCCASION BY COMPILING A YEAR-BY-YEAR SCRAPBOOK OF THE EVENTS, GAMES AND PEOPLE THAT DEFINED THE ERA AND CREATED A GENERATION OF CODERS, GEEKS AND GAMERS

1982

It began on 23 April 1982, Sinclair unveiling the ZX Spectrum in all its rubber-keyed glory at the Earl's Court Computer Fair in London. Teething production troubles, however, meant that availability of the computer was scarce until the summer of 1982. Only then could the public, and more critically, developers, get their hands on either the £125 16K or £175 48K models.

As a result, software was also limited throughout the remainder of 1982, and it was only towards the end of the year that Spectrum owners got the chance to play professionally produced and programmed games. Even by June, magazine *Sinclair User* was still devoting significant space to the Spectrum's predecessor, the ZX81, while a focus on coding and practical applications held sway over gaming. But in the same issue, its close look at the new computer brought positive news. "The 48KB RAM is potentially as powerful as the Apple II costing around three times the price," the magazine reported together with photos of eager crowds at the Earl's Court show.

But two months later the Spectrum was still impossible to find, with an early batch of 16K machines discovered to be faulty and withdrawn before sale. Sinclair itself was seeking funding in the city to enable it to continue production of both the Spectrum and its other projects. Anticipation was building and finally, in November, the games began to appear. Sinclair's development partner Psion was behind some of the best, with *Space Raiders* and *Planetoids* riffing on the arcade games *Space Invaders* and *Asteroids* respectively.

With the Spectrum now readily available, the market expanded quickly and established publishers such as Melbourne House and Quicksilva became the early trailblazers. The January issue of *Sinclair User* (street date December 1982) contained a considerably larger selection of reviewed games, and the scene was set for the ZX Spectrum to take off in 1983.

HARDWARE>SOFTWARE

Following the much-reported delay for the Spectrum, Sinclair continued to plug the hardware side of its range. Interfaces, disk drives and the ZX Microdrive were frequently proclaimed in the press, the promise of ultra-fast loading times and ease-of-use beguiling readers that were eagerly lapping up this new technological revolution. Throughout 1982, Sinclair continued to push its dream of selling a range of add-ons for its new computer with the purchase of a Spectrum just the beginning.

DEFING GAMES

PENETRATOR

PUBLISHER: MELBOURNE HOUSE
DEVELOPER: VERONIKA MEGLER & PHILIP MITCHELL
HIGHEST SCORE: 9/10 (C&VG)

One of many early arcade clones, Melbourne House's *Penetrator* took the classic sci-fi shoot-'em-up *Scramble* and gave it a Speccy twist, complete with a level designer with which gamers could create landscapes to bomb and destroy. A smart and shiny shooter, streets ahead of its competition.

HORACE GOES SKIING

PUBLISHER: PSION
DEVELOPER: WILLIAM TANG
HIGHEST SCORE: 5/5 (PERSONAL COMPUTER NEWS)

Psion coder William Tang had already created the *Pac-Man* clone *Hungry Horace* and the Spectrum games scene needed its mascots. A sweet combination of *Frogger* and downhill slalom, *Horace Goes Skiing* is comfortably the best of the *Horace* trilogy and a memorable early game.

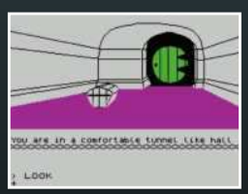
FOOTBALL MANAGER

PUBLISHER: ADDICTIVE GAMES
DEVELOPER: KEVIN TOMS
HIGHEST SCORE: 909/1000 (ACE)

The football management simulation remains popular today and it began here with Kevin Toms' *Football Manager*. The level of interaction and the strategic choice was remarkable for the time while the graphic representation adds some much-needed visual verve to proceedings.

THE HOBBIT

PUBLISHER: MELBOURNE HOUSE
DEVELOPER: VERONIKA MEGLER & PHILIP MITCHELL
HIGHEST SCORE: 9/10 (C&VG)



Adventure games were one of the cornerstones of the early Spectrum software scene and *The Hobbit* is rightly regarded as one of the best of all time on the computer. The inclusion of graphics – one of the first adventures to do so – comfortably elevated it above its peers.

ARCADIA

PUBLISHER: IMAGINE SOFTWARE
DEVELOPER: DAVID LAWSON
HIGHEST SCORE: 4/5 (HOME COMPUTING WEEKLY)

The sad passing of Imagine's David Lawson brought back memories of his earliest programming effort, a manic fixed shoot-'em-up that helped establish Imagine as one of the premier Spectrum software houses. Fast and exciting, its smooth gameplay ensured it sold by the bucket-loads.

1983

"HARDWARE SALES WERE GOING GANGBUSTERS, LARGELY THANKS TO A DEEP PRICE CUT"

The supply problems finally started to ease as the Spectrum was made available to buy in WHSmith and other high-street chains. Some larger stores even created special areas where potential buyers could get hands-on with the hardware and the latest software. And talking of software, when it came to Spectrum games this is the year when the volume of releases really exploded. Owners were suddenly spoiled for choice – although the actual range of game styles was rather limited. If you loved *Space Invaders* and *Galaxians* in the arcades then you were in luck, as there were more than 20 unofficial clones to choose from. There were also around a dozen versions of both *Pac-Man* and *Frogger* available, and God knows how many nondescript maze games.

Thankfully there were a few original gems amongst all the coin-op clones. The games we've selected for this year are very predictable, but on release they were crucial in demonstrating the capabilities of the Spectrum, particularly when compared to the offerings on other micros. Most UK software houses hedged their bets and released games for a range of computers, but for the likes of Bug-Byte, Imagine Software, Quicksilva and Ultimate Play The Game, the Spectrum emerged as their lead format simply because that's where the biggest market was. Hardware sales were going gangbusters, largely thanks to a price cut in May when the 16K model was reduced to £99 (thereby becoming the first colour computer to retail for less than £100) and the 48K version fell to £129 (which in hindsight was the real bargain of the day).

The Spectrum's first milestone arrived in August when Sinclair announced that UK and European sales had topped half a million. And it showed no sign of slowing, with more than 50,000 machines sold every month in the UK in the run up to the crucial Christmas period. However, it wasn't all good news on the hardware front. The Interface 1 and Microdrive combo – Sinclair's low-cost tape-loop storage system – finally arrived in September, 16 months late, and immediately ran into reliability issues. The Interface 2 arrived the same month and added a ROM cart slot, but it never caught on and only ten cart games were ever released. These were setbacks for sure, but did it really matter when Sinclair already had a majority 42% share of the UK home micro market?

» [ZX Spectrum] Ultimate's bug-blaster *Pssst* was one of just ten titles that Sinclair released on cartridge format.

ARISE SIR CLIVE

■ In June 1983 it was announced that Clive Sinclair, affectionately 'Uncle Clive' to many, was to become Sir Clive as he was the recipient of a knighthood in the Queen's birthday honours list. Aged just 42 at the time, he was awarded the honour for his contribution to the UK computer industry, and in particular the achievement of delivering micros for the masses with the ZX81 and Spectrum. He called the award a "truly great honour".

DEFINING GAMES

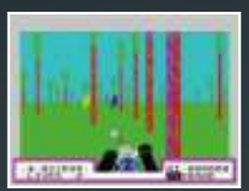
JETPAC

PUBLISHER: ULTIMATE PLAY THE GAME
DEVELOPER: ULTIMATE PLAY THE GAME
HIGHEST SCORE: 9/10 (C&VG)

■ Ultimate burst onto the scene with the perfect debut that showcased its development flair and highlighted the Spectrum's arcade credentials. *Jetpac* was the polished space shooter that set the standard that all other developers strived for.

DEATHCHASE

PUBLISHER: MICROMEGA
DEVELOPER: MJ ESTCOURT
HIGHEST SCORE: 92% (CRASH)



■ Like *Jetpac*, this was another expansive title that somehow ran on a 16K Spectrum. It was the first game to really deliver 3D thrills as you raced through the forest, dodging trees. It was also the best unofficial *Star Wars* game on the Spectrum.

MANIC MINER

PUBLISHER: BUG-BYTE SOFTWARE
DEVELOPER: MATTHEW SMITH
HIGHEST SCORE: 9/10 (C&VG)

■ In the era of single-screen games Matthew Smith designed this platformer par excellence that featured 20 unique levels, each a mini puzzle. Along with its follow-up, *Jet Set Willy*, this classic has become synonymous with the Spectrum.

ANT ATTACK

PUBLISHER: QUICKSILVA
DEVELOPER: SANDY WHITE & ANGELA SUTHERLAND
HIGHEST SCORE: 85% (CRASH)

■ The early years were full of 'wow' moments, when you first glimpsed a game and it instantly resonated. *Ant Attack* and its isometric graphics provided one of those for many, pulling you right into the stark, ant-infested city of Antescher.

CHUCKIE EGG

PUBLISHER: A&F SOFTWARE
DEVELOPER: NIGEL ALDERTON
HIGHEST SCORE: 80% (CRASH)

■ This classic platform and ladders game replicated the speed and smoothness of titles you'd expect to find in the arcades. While it's hotly disputed in some circles, we feel that this was easily the best version of the classic game.

1984

Having brought computers into the home, Sinclair shifted its gaze to the office and introduced the QL (Quantum Leap) business machine in January. It was a bold move and ultimately a disastrous one, with sales of just 44,000 during this year. Despite this setback, Sinclair revealed in March that its turnover during the previous 12 months had climbed 42% to £77.7 million – and this was mainly driven by sales of Spectrum hardware and software. Worryingly, profits had stayed static and this was blamed on costs incurred by the development of the QL and TV80, Sinclair's pocket TV that launched to indifference in October 1983.

On the third-party software front, new publishers were seemingly popping up daily to release games for the UK's best-selling home computer. Some publishers – notably Ocean Software, Elite Systems and Software Projects – began to really establish themselves and gain footholds in the market. Ocean and Elite were quick to pick up on the value of licences, but it would be a while before licensed properties dominated the market. One noticeable casualty was Imagine, the Liverpool-based software house which collapsed in July 1984 following months of speculation about its solvency. Software piracy was a genuine problem in the industry by this point, and it was suggested that copying games had contributed to Imagine's demise. Yet it was clear that the firm had succumbed to problems of its own making. It 'Bandersnatched' itself basically.

» [ZX Spectrum] Ocean scored a cracker this year with Jon Ritman's classy football game *Match Day*.

The failure of the QL and other ventures prompted Sinclair to look at what *was* working, so its focus returned to the Spectrum. In August it wisely dropped the 16K model and set about repackaging the 48K machine. The result was the Spectrum+ which arrived in October and featured a moving keyboard borrowed from the QL. While these days we see the original rubber keyboard as part of the Spectrum's charm, it was far from the most practical feature so it made sense to update it. Less logical was the price tag of £179, but this was offset somewhat by the inclusion of a six-game software pack (which Sinclair claimed was worth £67 – yeah right).

For gamers the year ended on a high when Ultimate released not one but two *Sabreman* games just before Christmas. The firm had previously boasted that it was streets ahead of the competition, and the quick-fire arrival of *Underwurlde* and *Knight Lore* proved that its bullishness was entirely justified.

CRASH LANDS

■ Having initially begun life as a mail order catalogue featuring write-ups of the latest games, the first proper issue of *Crash* – "The Monthly Spectrum Software Review" – went on sale on 13 January 1984. It proved to be a lucky day for editor Roger Kean and his Newsfield crew, as the mag would run for years and its success would spawn sister mags *Zzap!64* and *The Games Machine*. For many *Crash* was the most respected source of Spectrum reviews.

» A rare glimpse of *Bandersnatch*, the much-hyped 'mega game' that contributed to the fall of Imagine Software.

"PUBLISHERS WERE SEEMINGLY POPPING UP DAILY TO RELEASE GAMES FOR THE UK'S BEST-SELLING HOME COMPUTER"

DEFINING GAMES

SABRE WULF

PUBLISHER: ULTIMATE PLAY THE GAME
DEVELOPER: ULTIMATE PLAY THE GAME
HIGHEST SCORE: 91% (CRASH)

■ The first *Sabreman* adventure is well remembered for its large map, colourful graphics, excellent animation – and £10 price tag. Was it worth paying a premium for a good-looking maze game that came in a nice box? Absolutely.

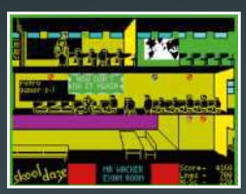
THE LORDS OF MIDNIGHT

PUBLISHER: BEYOND SOFTWARE
DEVELOPER: MIKE SINGLETON
HIGHEST SCORE: 10/10 (PCG)

■ Calling any Spectrum game an 'epic' was audacious, especially if it was your own, but Mike Singleton was entirely justified. This strategy adventure war game featured 4,000 locations, 32 playable characters and multiple ways to win. Epic indeed.

SKOOL DAZE

PUBLISHER: MICROSPHERE
DEVELOPER: DAVID REIDY & KEITH WARRINGTON
HIGHEST SCORE: 93% (CRASH)



■ A formative experience growing up with the Spectrum involved renaming all the teachers in this game to your real ones, then running around firing catapults, scrawling on the blackboards and generally causing mayhem. They were the happiest daze.

DALEY THOMPSON'S DECATHLON

PUBLISHER: OCEAN SOFTWARE
DEVELOPER: OCEAN SOFTWARE
HIGHEST SCORE: 8/10 (SINCLAIR USER)

■ Taking *Track & Field* and aligning it with a home-grown sporting hero was a marketing masterstroke by Ocean, resulting in a massive Christmas number one. *Hyper Sports* and *Super Test* were better games, but the original was iconic.

KNIGHT LORE

PUBLISHER: ULTIMATE PLAY THE GAME
DEVELOPER: ULTIMATE PLAY THE GAME
HIGHEST SCORE: 10/10 (PCG)

■ The gall of Ultimate, casually creating a new game style for an ongoing series. The third *Sabreman* adventure introduced us to the incredible 'Filmation' system which brought isometric worlds to life and led to a multitude of copycat games.

» Ultimate wrapped up the year in style with the release of two instant Speccy classics.

» The Spectrum+ was another good seller, but its success would come at a price.

1985

There was plenty of excitement around the Sinclair computer at the start of this year with publisher US Gold proclaiming, "There's never been a better time to own a Spectrum…" in January, and it was hard not to get engaged with the upbeat mood. While Christmas 1984 had brought gentle disappointment to some – Ultimate aside – the promise of gaming riches throughout 1985 was enticing even more people to the Sinclair computer. It was now virtually unknown for commercial games to feature any BASIC code, even the budget titles of companies such as Mastertronic. And while Sir Clive Sinclair himself may have bristled at the popularity of gaming on his computer, it undoubtedly helped sell the machine throughout Europe.

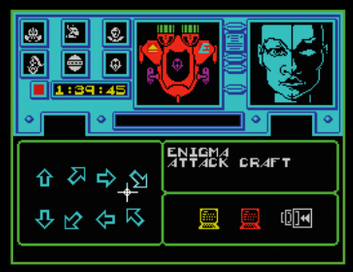
It was in 1985 that the inexorable rise of licensed games began, starting with Elite's rock-hard chopper game, *Airwolf*. Bearing little resemblance to the series beyond its helicopter, *Airwolf* has come to represent the arch-difficulty of many Spectrum games, but its extreme success helped bankroll Elite's dip into arcade game licensing and encouraged other software houses to investigate this strange new world of optioning IPs from film and television. The US Gold/Ocean Software relationship had already produced several arcade hits but these companies would soon go their separate ways, contesting in a pitched battle for licences throughout the Eighties.

Meanwhile, Sinclair itself was busy, working on its new Spectrum. However, the company and its popular micro were beginning to become victims of their success. Rumours abounded throughout the year until, finally, autumn brought the new 128K Spectrum… to Spain. Conscious of the large stocks of the ZX Spectrum+ that remained in the UK, Sinclair decided to focus on shifting as many of its 48K computers as possible before moving on to the superior model. The result was envious eyes across Europe as the Spanish company Investronica manufactured and distributed the 128K Spectrum across the Spanish-speaking world. "Spectrum Plus sales will be safe over the Christmas period," noted *Crash* magazine in October, "with the 128K safely on holiday in Spain earning revenue in a whole new marketplace. Everyone at home, meantime, is kept in the dark ages of 48K."

It was a bemusing decision by Sinclair to neglect its biggest market, but the games kept coming for the 48K machines as developers managed to squeeze more out of the machine. Technically marvellous efforts such as *Starion*, *Dragontorc*, *Shadowfire* and *I, Of The Mask* rubbed shoulders with the growing budget market, with titles such as David Jones' *Finders Keepers* providing amazing value for money. As we headed into 1986, it was clear the ZX Spectrum 48K was going nowhere.

THE DIXONS DEAL

When Sinclair advanced plans to release its 128K Spectrum in 1985, retailer Dixons, having paid a reported £10 million to secure a massive number of the Spectrum+ model, was understandably miffed. Anxious of upsetting one of its largest partners in the UK, the result was a Spanish release for the 128K while UK owners had to wait until the following year, although parents were then inevitably reluctant to shell out for another computer so soon after purchasing the Dixons bundle.



» [ZX Spectrum] Throughout 1985, Spectrum games became more complex, such as the icon-driven sci-fi adventure, *Shadowfire*.

"RUMOURS ABOUNDED THROUGHOUT THE YEAR UNTIL, FINALLY, AUTUMN BROUGHT THE NEW 128K SPECTRUM… TO SPAIN"

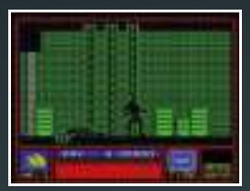
DEFINING GAMES

COMMANDO

PUBLISHER: ELITE SYSTEMS
DEVELOPER: KEITH BURKHILL & NIGEL ALDERTON
HIGHEST SCORE: 5/5 (SINCLAIR USER)

Elite had already dabbled with licensing but it was this fantastic home port of the Capcom hit that catapulted it into the big time. A huge seller, its accurate recreation of the original's gameplay confirmed that arcade conversions could be done, and done well on the Speccy.

SABOTEUR!



PUBLISHER: DURELL SOFTWARE
DEVELOPER: CLIVE TOWNSEND
HIGHEST SCORE: 5/5 (SINCLAIR USER)

Durell fully cemented its position as a premier Spectrum software house with this ninja caper from creator Clive Townsend. Featuring a huge atmospheric open world full of killer dogs and guards, this was one mission guaranteed to provide plenty of thrills and excitement.

STARQUAKE

PUBLISHER: BUBBLE BUS SOFTWARE
DEVELOPER: STEPHEN CROW
HIGHEST SCORE: 96% (CRASH)

In 1985, lucky Sinclair gamers got this superlative comical arcade adventure from Stephen Crow and Bubble Bus. Featuring the loveable – thing – known as BLOB, *Starquake* takes place over dozens of colourful and frantic screens as the round hero attempts to save the universe.

FINDERS KEEPERS

PUBLISHER: MASTERTRONIC
DEVELOPER: DAVID JONES
HIGHEST SCORE: 9/10 (PERSONAL COMPUTER GAMES)

It wasn't until David Jones and Mastertronic released this, the first of the *Magic Knight* trilogy, that budget games began to hold their own against their full-price counterparts. Fun, engaging and surprisingly deep, *Finders Keepers* defined what could be purchased for just £1.99.

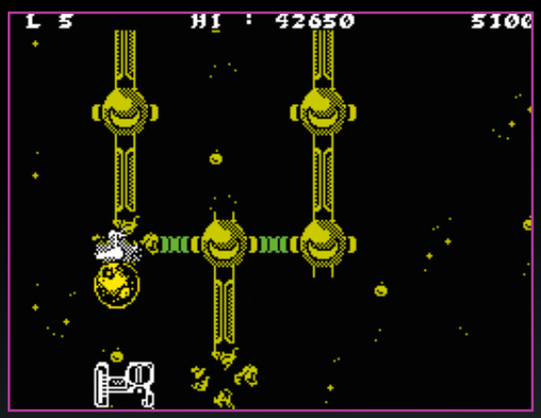
MONTY ON THE RUN

PUBLISHER: GREMLIN GRAPHICS
DEVELOPER: PETER HARRAP
HIGHEST SCORE: 94% (CRASH)

Thanks to classics such as *Jet Set Willy*, platform games came to define the Spectrum. Gremlin's *Monty On The Run* continued this tradition, as Monty Mole attempts to escape the law and board a ferry to Europe. Insanely difficult in places, yet always entertaining.

» The poor Sinclair Spectrum 128K lasted just six months.

1986



» [ZX Spectrum] Arcade-standard graphics on the Speccy! Well, not quite, but *Light Force* was still an impressively attribute-free shoot-'em-up.

While the great games continued to appear, and the Spectrum software market, in general, went from strength to strength, 1986 was a turbulent year for Sinclair itself. After the Spanish release of the 128K model the previous autumn, the UK finally saw the computer at retail in February of this year. The problem was, the push by retailers the previous Christmas meant that thousands of new 48K machines were currently being enjoyed by eager youngsters. Parents, many of whom were still under the ill-informed impression that computing was 'just a fad', were understandably disinclined to shell out £180 on yet another computer just two months later.

The Sinclair woes didn't stop there. Determined to pour everything into the development of its ill-fated C5 electric vehicle, the company was struggling. Having shifted focus back on the Spectrum following the failure of the QL, the lukewarm reception to the 128K was certainly not ideal. Positioned as a games machine (unlike its predecessor), the new model offered vastly superior sound and memory – but sadly little else, including an identical display when owners were quite within their rights to have expected some sort of visual improvement.

Fortunately for 48K owners, the games kept on coming, and for many 1986 represents the finest year for software on the Spectrum. In a continued theme of fascinating variety, owners could enjoy open-world extravaganzas such as Durell Software's *Turbo Esprit*; attribute-free arcade shoot-'em-ups such as *Light Force* or the elegiac *Starglider*; atmospheric chin-strokers *The Sentinel* and *The Great Escape*, and of course, delightfully British capers such as Gremlin's amiable *Jack The Nipper*. What's more, the leading Spectrum magazine, *Crash*, finally hit six figures, regularly selling over 100,000 copies a month throughout the year. Despite a virtual marketing blackout of the 128K from Sinclair – or maybe, because of it – for 48K owners, at least those interested in games, 1986 was a fantastic year.

And yet behind the software, the turbulence brewed, culminating in April's buyout of Sinclair by rival Amstrad, and £5 million is how much it took for Alan Sugar's company to purchase the Spectrum brand and its related products. Amstrad quickly put a new Spectrum, the +2, into turnaround and it appeared in the autumn, complete with an in-built cassette player, something Sinclair had always been reluctant to include. The original 128K 'toastie' computer – so nicknamed because of its distinctive heatsink – didn't stand a chance and sunk into obscurity, a mere six months after its UK release. ▶

» Dedicated Spectrum magazines such as *Crash* grew massively during 1986.

THE RISE OF THE RE-RELEASE

■ While budget houses such as Mastertronic had been stealthily repackaging older games for some time, it wasn't until 1986 and Elite's budget £2.99 Classics range that the idea finally caught on. Its initial slew of releases included oldie-but-goodie classics such as *Deathchase* and *Skool Daze*, but they sold well and soon every software house would have a budget sub-label, usually giving its old games a new lease of life at a low price.

"FOR 48K OWNERS, AT LEAST THOSE INTERESTED IN GAMES, 1986 WAS A FANTASTIC YEAR"

DEFINING GAMES

TURBO ESPRIT

PUBLISHER: DURELL SOFTWARE
DEVELOPER: MIKE RICHARDSON
HIGHEST SCORE: 5/5 (SINCLAIR USER)

■ Open-world games had existed before on the Spectrum, but Mike Richardson's driving caper remains a true technical wonder. *Turbo Esprit*'s world teems with life as the player charges around its dangerous streets, making it one of the most evocative gaming experiences of the Eighties.

JACK THE NIPPER

PUBLISHER: GREMLIN GRAPHICS
DEVELOPER: GREG HOLMES & PETER HARRAP
HIGHEST SCORE: 5/5 (SINCLAIR USER)

■ Few games gave such a distinctly British vibe as Gremlin's inventive cartoon caper. Presented in a beautiful clean style, *Jack The Nipper* is a delightfully original game infused with an endearing child-like spirit, plus you get to wield a peashooter.

BOMB JACK

PUBLISHER: ELITE SYSTEMS
DEVELOPER: ELITE SYSTEMS
HIGHEST SCORE: 92% (CRASH)

■ Revered by many – and even claimed to be better than the original by some – *Bomb Jack* is as fun and easy to play as it was 35-odd years ago. It's one of the finest arcade ports on any home system in any era.

COBRA

PUBLISHER: OCEAN SOFTWARE
DEVELOPER: OCEAN SOFTWARE
HIGHEST SCORE: 93% (CRASH)

■ There were few movie games as good as Cobra, coded by Jonathan 'Joffa' Smith and arguably more fun than the insipid Sylvester Stallone actioner itself. Across three short scenes, the level of creativity in *Cobra* is incredible, and it's all the better for often having little bearing on the movie.

QUAZATRON

PUBLISHER: HEWSON CONSULTANTS
DEVELOPER: STEVE TURNER
HIGHEST SCORE: 5/5 (YOUR COMPUTER)

■ Spectrum owners never got an official version of the C64 hit *Paradroid*, but they did get *Quazatron*, Steve Turner's brilliant reimagining of Andrew Braybrook's masterpiece. Set on a series of isometric levels, the addictive grappling minigame helps make *Quazatron* a pleasure to play.

1987

In this year the coin-op and movie licences began to dominate the release schedule. You only had to look at the year's first issue of *Crash* to see reviews of *Gauntlet*, *Terra Cresta*, *Donkey Kong*, *Elevator Action* and several other arcade conversions, while on the film front it was a case of the good (*Aliens*), the bad (*Highlander*) and the ugly (*Top Gun*). Even the adventure section was licence-heavy with reviews of *The Colour Of Magic*, *Dracula* and (believe it or not) *The Archers*. Editor Graeme Kidd reflected on all these licences in his editorial, calling it "a disturbing trend". It wouldn't change any time soon.

Talking of *Crash*, this was a golden period for the publication. It remained the UK's best-selling Spectrum mag with average monthly sales of 96,590 during the second-half of the year. There was change in the air though, as the era of the magazine covertape was upon us. Of the three main Spectrum mags, *Your Sinclair* was the first to carry covertapes and in this year the mag covermounted two full games – Ocean's *Road Race* and, one of our games of the year, *Batty* from Elite. *Crash* responded with a tape featuring several demos and so the first shots were fired in the covertape wars.

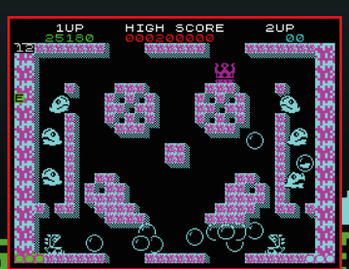
Having produced the +2, Amstrad predictably moved ahead with the +3, which was the Spectrum equivalent of the CPC 6128, featuring a built-in 3-inch disk drive. To the surprise of just about everyone, it launched in July 1987 for an eye-watering £249. It then quickly dropped to £199 before Christmas, with Amstrad admitting that it inflated the launch price cost so it could promote the '£50 off!' offer later in the year. Ho-hum. As with the Microdrive before it, the promise of expansive games that would take advantage of the new storage format was never realised. Besides loading quicker, only a small number of games added disk-only content and even then it was typically an extra screen here or a different tune there.

The year ended as it begun with yet more licences, specifically the behemoth that was US Gold's *Out Run*. Such was the clamour for this conversion that it would have sold shed-loads even if it had been terrible. As such, it was just good enough, but the star Sega conversion this Christmas was Activision's *Super Hang-On*.

"THE ERA OF THE MAGAZINE COVERTAPE WAS UPON US"

ZERO TO Z88

Having to sell his computer business to Amstrad was a low point for Sir Clive, but as many expected, he was soon back with a new firm and a new machine. For years at Sinclair he had tried to launch a portable computer (the ill-fated Pandora) and he finally managed it with the Z88. Featuring an eight-line LCD screen and a membrane keyboard, the Z88 was a nice idea that the technology of the day wasn't really able to deliver. You couldn't play *Horace Goes Skiing* on it either.



» [ZX Spectrum] *Bubble Bobble* from Firebird was one of the many coin-op conversions that landed on the Speccy this year.

DEFINING GAMES

HEAD OVER HEELS

PUBLISHER: OCEAN SOFTWARE
DEVELOPER: JON RITMAN & BERNIE DRUMMOND
HIGHEST SCORE: 9/10 (YOUR SINCLAIR)

Ultimate pioneered isometric adventures with *Knight Lore* and *Alien 8*, but it was Ritman and Drummond who perfected the style with this delightful cartoon romp. Was there a bigger, better, cleverer game available for the Spectrum? Doubtful.

DRILLER

PUBLISHER: INCENTIVE SOFTWARE
DEVELOPER: INCENTIVE SOFTWARE
HIGHEST SCORE: 97% (CRASH)

A 3D world rendered with filled polygons that you could freely explore? *Driller* and its 'Freescape' system delivered on that promise. The gameplay was fiddly, and the follow-ups were better, but the impact of the original cannot be overstated.

BATTY

PUBLISHER: ELITE SYSTEMS
DEVELOPER: MARK BETTERIDGE
HIGHEST SCORE: 85% (CRASH)

The details of why *Batty*, an *Arkanoid* clone that was better than both of Ocean's official Spectrum conversions, was given away on a magazine covertape are not entirely certain, but it was damn-fine news for readers of *Your Sinclair* that month.

EXOLON

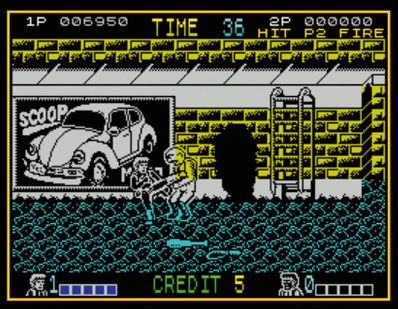
PUBLISHER: HEWSON CONSULTANTS
DEVELOPER: RAFFAELE CECCO
HIGHEST SCORE: 10/10 (SINCLAIR USER)

Many programmers reduced the number of on-screen colours to avoid attribute clash, but Raffaele Cecco was having none of that. *Exolon* was his run-and-gun masterwork that featured large sprites, full-on action and loads of glorious colour.

OUT RUN

PUBLISHER: US GOLD
DEVELOPER: PROBE SOFTWARE
HIGHEST SCORE: 8/10 (YOUR SINCLAIR)

Not the best game of the year but certainly the biggest. US Gold went all out with this conversion that managed to replicate the look if not the feel of Sega's flagship racer. Full marks for trying – and convincing everyone that they needed it.



» [ZX Spectrum] *Double Dragon* was aiming to top the Christmas charts, but it was beaten to the punch by Ocean's *RoboCop*.

"THE RACE FOR THE CHRISTMAS NUMBER ONE WAS THE MOST HOTLY CONTESTED YET"

1988

After a solid 1987, this is the year when Ocean began to pull away from the pack. Once *Out Run* had disappeared around the bend, the Manchester firm spent more time at the top of the sales charts than any other publisher. *Platoon*, *Target: Renegade* and *Daley Thomson's Olympic Challenge* all enjoyed spells at the number one spot, while *Combat School*, *Match Day II*, *Where Time Stood Still* and *Operation Wolf* figured strongly in the top ten. Asked about its success by *Sinclair User*, software manager Gary Bracey said, "We've finally got rid of the *Knight Rider* reputation and sorted out our schedules." As evidenced by the games we've selected this year, it wasn't just about the numbers – Ocean was now putting out some top-drawer titles. Even its licences were challenging expectations: compare the considered, multi-stage treatment of *Platoon* with the one-note approach of Activision's *Predator*.

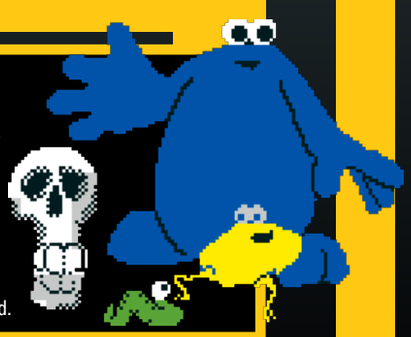
Ocean and other publishers began to leverage the magazine covertapes. If a review hadn't convinced you, why not play a one-level demo and make up your own mind? In return for covermounting the latest demos, publishers would often stump up one of their back catalogue titles for the tapes. It was a win-win situation and *Sinclair User* began to include a tape with every issue from March onwards, with *Your Sinclair* following suit in October (*Crash* would hold out until the middle of the following year). The presence of the tapes didn't noticeably affect the contents of the actual mags, at least not at this point in time.

On the hardware front, retailers reported that the new Amstrad machines were selling briskly, particularly the +2. There were regular reports in the press that Amstrad was readying some kind of super-duper +4, but in the end what we got was the Spectrum +2A, which was a cost-reduced +2 with added support for an external disk drive, and the Sinclair PC-200, a PC clone that nobody asked for and nobody bought. There were also reports of a Spectrum clone code-named 'Sam', but more on that later.

The race for the Christmas number one was the most hotly contested yet. It was expected that another coin-op conversion would win out, and *Operation Wolf*, *After Burner*, *Thunder Blade* and *Double Dragon* were all jockeying for position, but in the end it was the game based on the film *RoboCop* that came out of nowhere and took the top spot, continuing Ocean's winning run.

PIRANHA SINKS

■ You'd imagine that focusing on licensed games would almost guarantee success at this time, but not so for Piranha. Created by publisher Macmillan, Piranha put out several excellent tie-in games including *The Trap Door*, *Nosferatu* and *The Colour Of Magic*. Reviews were strong but sales were seemingly lacking, as Macmillan pulled the plug in early 1988, less than 24 months after it launched the label. As a result several announced games including *Halo Jones* and *Judge Death* were canned.



DEFINING GAMES

TARGET: RENEGADE

PUBLISHER: IMAGINE SOFTWARE
DEVELOPER: OCEAN SOFTWARE
HIGHEST SCORE: 92% (YOUR SINCLAIR)

■ Ocean missed out on the *Double Dragon* licence, so it hit back with its own version that added weapons and co-op play to *Renegade*'s winning formula. Needless to say it floored *Double Dragon* with a swift knee to the groin.

KIKSTART 2

PUBLISHER: MASTERTRONIC
DEVELOPER: ICON DESIGN
HIGHEST SCORE: 8/10 (SINCLAIR USER)

■ This was Mastertronic's best-selling original title on the Spectrum, shifting an amazing 130,000 copies. There was no secret to its success – just a fun two-player tear-up with a built-in course designer, all for £2. There was no sound, but still…

WHERE TIME STOOD STILL

PUBLISHER: OCEAN SOFTWARE
DEVELOPER: DENTON DESIGNS
HIGHEST SCORE: 96% (SINCLAIR USER)

■ Many games offered 128K enhancements but they'd still run on 48K machines. This blockbuster from Denton Designs was designed exclusively for 128K models and the result was a sprawling adventure that genuinely justified upgrading your machine.

R-TYPE

PUBLISHER: ACTIVISION
DEVELOPER: CATALYST CODERS
HIGHEST SCORE: 93% (C&VG)

■ Coder Bob Pape somehow managed to shoehorn Irem's arcade spectacle onto the Spectrum, huge bosses and all. This was not just the best blaster, or the best coin-op conversion, but simply one of the best games available for the Spectrum.

ROBOCOP

PUBLISHER: OCEAN SOFTWARE
DEVELOPER: OCEAN SOFTWARE
HIGHEST SCORE: 95% (C&VG)

■ It's the game that everyone bought eight copies of, as it dominated the sales charts for almost a year. The combination of a red-hot licence and a genuinely great game paid off handsomely for Ocean. Superb music from Jon Dunn too.

1989

As 1989 dawned, Ocean's mega movie licence *RoboCop* dominated the Spectrum scene. Picked up for a song given the film's status as a sleeper hit, Ocean took the plaudits for securing the rights to a game based on the violent movie and its development team of Mike Lamb and Dawn Drake produced the goods with a magnificently diverse and fun experience. Away from software, Spectrum peripheral manufacturer Miles Gordon Technology (MGT) announced in January that it would be producing an 8-bit supercomputer called the SAM Coupe. With a mammoth 256K of RAM, six-channel sound and a custom Z80B processor chip it was certainly a step up – but why of such interest to Spectrum owners? Simple: the computer would offer a 48K Spectrum mode, allowing – in theory – for most Spectrum games to run on it.

As the year progressed, arcade and other licences continued to dominate the Spectrum computer-game scene with full-price original games few and far between. It would turn into a dramatic year for most of the Spectrum games magazines as the proliferation of covermounted games and demos continued apace. June of this year marked a particularly sad moment when the editorial content of *Crash* magazine was suddenly whittled down from over 90 pages to just 34. Once you got past a smattering of reviews and pages of adverts, there was little else to everyone's favourite Spectrum magazine, now a pale shadow of its former self.

Spectrum brand owner Amstrad also endured a painful year. The 16-bit computers (particularly early runner the Atari ST) were beginning to make their mark and the latest tape-based version of the computer, the +2A, was suffering from unfortunate compatibility issues. While a different colour (black, to the +2's grey), Amstrad's use of identical packaging upset some users who wanted to stick with the grey model.

The demographic of Spectrum users themselves was also changing rapidly. With older siblings moving to Atari STs and Amigas, many 48K Spectrums found their way to younger children and the games market followed this trend, with budget software houses such as Alternative Software marketing lines of games based on children's cartoons. With vast numbers of games being given away on the cover of all the Spectrum magazines and virtually every major software house having a sub-label for re-releasing old titles, gamers after something fresh and original were finding pickings even slimmer throughout 1989.

THE COVERTAPE WARS

■ The constant battle to get games, demos and more onto the covers of the three main Spectrum mags reached a crescendo in 1989. The shift in emphasis resulted in *Crash* slimming down its editorial content as its publishers focused on the compilation-style cassettes it offered on the front cover. Like a forebear to the kids' magazines of today, the magazine itself was likely barely glanced at once the tape had been removed from its cover by an eager young Speccy owner.

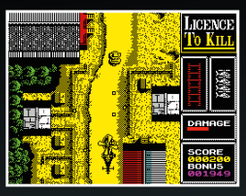
DEFING GAMES

MYTH: HISTORY IN THE MAKING

PUBLISHER: SYSTEM 3 SOFTWARE
DEVELOPER: NEIL DODWELL & DAVID DEW
HIGHEST SCORE: 96% (CRASH)

■ A rare original gem in among the licensed fare, System 3 cleverly focused on making each version of *Myth* system-specific, meaning Spectrum fans had a significantly different version of this mythical trawl through history. A sleek arcade adventure with beautifully intricate graphics.

LICENCE TO KILL



PUBLISHER: DOMARK SOFTWARE
DEVELOPER: QUIXEL
HIGHEST SCORE: 80% (CRASH)

■ James Bond games had had a patchy record up until this Domark effort; finally, fans of the suave spy got the Spectrum game they deserved. From a helicopter chase to on-foot battles and tanker driving, *Licence To Kill* proved that movie adaptations didn't have to be by the numbers or just plain awful.

RICK DANGEROUS

PUBLISHER: FIREBIRD
DEVELOPER: DAVID PRIDMORE
HIGHEST SCORE: 87% (C&VG)

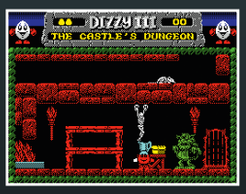
■ In its oversized card box and glossy slipcase, *Rick Dangerous* certainly looked the part. While the gameplay has since been criticised for its trial-and-error frustration method of testing the player, it was one of the biggest, brightest and biggest-selling Spectrum games of 1989.

RENEGADE III: THE FINAL CHAPTER

PUBLISHER: IMAGINE SOFTWARE
DEVELOPER: OCEAN SOFTWARE
HIGHEST SCORE: 91% (CRASH)

■ Few games demonstrate the change of Spectrum demographic more than the third in this popular series. Eschewing the gritty urban style of the earlier games, *Renegade III* opts for a fantastical story, jettisoning its hero across time and up against cute dinosaurs and cavemen. It's as terrible as it sounds.

FANTASY WORLD DIZZY

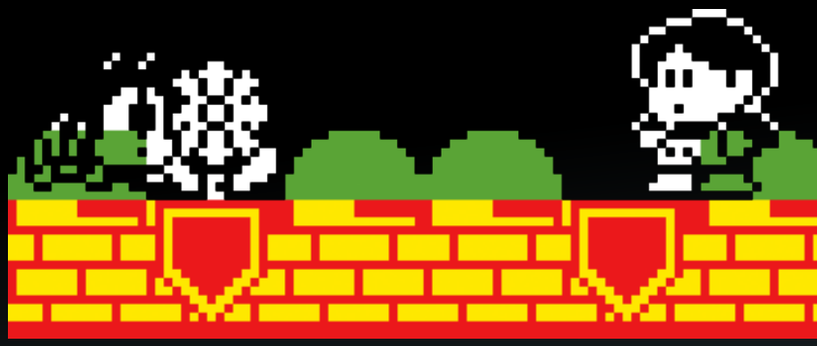


PUBLISHER: CODEMASTERS
DEVELOPER: THE OLIVER TWINS & NEIL ADAMSON
HIGHEST SCORE: 94% (CRASH)

■ Featuring the series' trademark cute graphics and a range of puzzles just on the right side of frustrating, this third *Dizzy* game garnered considerable praise in the press and is still considered one of the best of the series today. All for the bargain price of £2.99.

"WITH OLDER SIBLINGS MOVING ON TO ATARI STS AND AMIGAS, MANY 48K SPECTRUMS FOUND THEIR WAY TO YOUNGER CHILDREN"

1990



While there would be no further Spectrums in the works, February 1990 finally saw the SAM Coupe released in the UK. The MGT computer, despite being a marked improvement over the Speccy, sadly compared poorly to the now-established Commodore Amiga and Atari ST. Despite some neat tricks and backwards compatibility for Spectrum games, it was destined to flop and MGT would soon be no more as well.

Games-wise, arcade licences, in particular, continued to dominate, but that doesn't mean there weren't some excellent releases, with Ocean's *Midnight Resistance* and *Rainbow Islands* proving particularly pleasing. Meanwhile, the shift to pamphlet status did *Crash* magazine no favours at all as it slipped down to third in the Spectrum magazine popularity chart behind *Your Sinclair* and *Sinclair User*. *Crash* would limp on, regardless, but in reality, all three were suffering.

Keen to promote its existing computers, Amstrad revealed its Plus range in 1990 and at the same time quietly dropped production of the ZX Spectrum +3 model. While the +2 (actually +2A) would soldier on, it was the end of the line for the superior disk-based machine. On a notionally similar, but generally unrelated note, Codemasters created the first Spectrum compilation on compact disc early in 1990, with over 30 of its games available with super-quick loading times once you hooked up your computer to a CD player. Games on CD? Who'd have thunk it?

Traditional cassette compilations had been dominating the Spectrum software scene for some years, especially around Christmas time when their large chocolate box-style containers made them appealing for parents looking for gifts. Christmas of 1990 brought Ocean's *Hollywood Collection*, featuring the movie games *RoboCop*, *Indiana Jones And The Last Crusade*, *Ghostbusters II* and *Batman*. But the continued policy of multiple games on the cover of magazines month after month saturated the market, and when Ocean Software announced that it was going to be producing 128K games only, it felt like the end of an old era rather than the start of an exciting new one.

Amazingly, the Spectrum would show remarkable legs, with commercial games seeing the light of day even three years later. But for most fans of the dogged little computer, which first appeared on that significant spring day of 1982, its best times were well behind it. Yet on the Spectrum continued as the new decade unfolded.

» It's Christmas 1990 and compilations are as popular as ever.

THE END OF THE +3

"The Spectrum +3 is dead," reported *Crash* in its November 1990 issue. The disk-based Spectrum, in the hands of 15% of Spectrum owners according to the article, was unceremoniously dumped by Amstrad, leaving the cassette-based +2 as the lone flag bearer for the Speccy. The main reason for the drop appeared to be Amstrad's imminent release of its Amstrad CPC 6128 Plus machine, although it's difficult to see how potential business users (Amstrad's target) would have ever considered the disk-based Spectrum. Either way, the +3 was indeed history.

"GAMES-WISE, ARCADE LICENCES, IN PARTICULAR, CONTINUED TO DOMINATE"

DEFINING GAMES

LORDS OF CHAOS

PUBLISHER: BLADE SOFTWARE
DEVELOPER: JULIAN GOLLOP
HIGHEST SCORE: 90% (YOUR SINCLAIR)

Julian Gollop had already created the superb *Rebelstar* and *Laser Squad* games and provided sequels and expansions to both. In 1990, the ace coder finally followed up on his 1985 cult hit *Chaos* with another deep and engrossing strategy game that pitches more warring wizards against each other.

MIDNIGHT RESISTANCE

PUBLISHER: OCEAN SOFTWARE
DEVELOPER: SPECIAL FX
HIGHEST SCORE: 93% (CRASH)

Having cut his teeth with his previous arcade conversion of *Cabal*, Special FX's Jim Bagley created his masterpiece with this incredibly faithful port of the Data East arcade game. Tough and cartoonishly beautiful, *Midnight Resistance* helped brighten up the dull 1990 summer for Spectrum fans.

EARTH SHAKER

PUBLISHER: YOUR SINCLAIR
DEVELOPER: MICHAEL BATTY
HIGHEST SCORE: 83% (BIT)

Earth Shaker, a *Your Sinclair* exclusive, may not be the most original of games – it owes a considerable debt to the venerable First Star Software series *Boulder Dash* – yet it more than makes up for this with cunning gameplay and cute, colourful graphics. A little gem among the covertapes.

RAINBOW ISLANDS

PUBLISHER: OCEAN SOFTWARE
DEVELOPER: GRAFTGOLD
HIGHEST SCORE: 95% (C&VG)

Erstwhile Hewson developer Graftgold and publisher Ocean launched this Taito sequel onto the Spectrum and Steve Turner's team of David O'Connor and John Cumming did him proud. Retaining all the whimsical charm of the arcade original, *Rainbow Islands* was a huge hit in the spring of 1990.

SIM CITY

PUBLISHER: INFOGRAMES
DEVELOPER: PROBE SOFTWARE
HIGHEST SCORE: 93% (YOUR SINCLAIR)

It's hard to believe the original city-building classic appeared on the ZX Spectrum, but it did, courtesy of Maxis and Infogrames. Coded by Anthony Hartley with graphics by Simon Butler, it's a compact and efficient version of the original that showed there was still appetite for complex games on the Speccy.

1991+

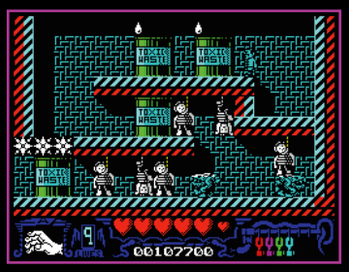
The price of the 16-bit computers continued to fall and by 1991 you could pick up an Atari ST or even an Amiga for a little over £300. This brought them within reach of Spectrum owners looking for a viable upgrade path. An alternative option was the Amstrad CPC Plus machines, but by the Nineties who the hell wanted a new 8-bit computer? Just ask MGT.

For a while those who stuck with the Spectrum were rewarded with decent versions of popular 16-bit games like *Lemmings*, *North & South* and *Space Crusade*. The latest coin-ops were also converted, but the likes of *G-LOC*, *Final Fight* and *Street Fighter II* were clearly too much for the poor hardware to handle. In April 1992 Amstrad announced that it had ceased manufacturing the Spectrum. And so after precisely ten years as a going concern, during which more than five million units were sold, the production lines finally stopped.

Software support followed suit. Ocean, US Gold, Domark and Elite dropped the Spectrum by 1993, and only the budget publishers and indie developers continued to put out games. This meant that the mags had very little to review and *Sinclair User* closed its doors in March 1993 (having swallowed up *Crash* the previous year). *Your Sinclair* lasted a little longer, until August 1993, when the team signed off with a celebratory 'Big Final Issue'. However, it was the penultimate issue that opened the eyes of readers who were still clinging onto their Speccys. In it, Simon N Goodwin lifted the lid on emulators, explaining how you could actually run Spectrum games on a PC, Amiga and ST. Postal addresses and bulletin boards where you could get these emulator things were listed. The Spectrum's commercial life was over, but the vast library of games would live on, whether you played them on real hardware or emulated them.

Key to keeping the legacy alive was the World Of Spectrum website, which was launched in November 1995 by Martijn van der Heide. This repository of Spectrum-related material, including original software, emulators, books and magazines, would quickly develop into one of the finest computing resources on the internet. The forum became a focal point for the fan community and regular site updates would fill gaps in the archive as well as share details of the new hobbyist/homebrew games and demos that continued to be released as the new millennium approached.

» [ZX Spectrum] Budget publishers like Codemasters continued to support the Spectrum well into the Nineties.

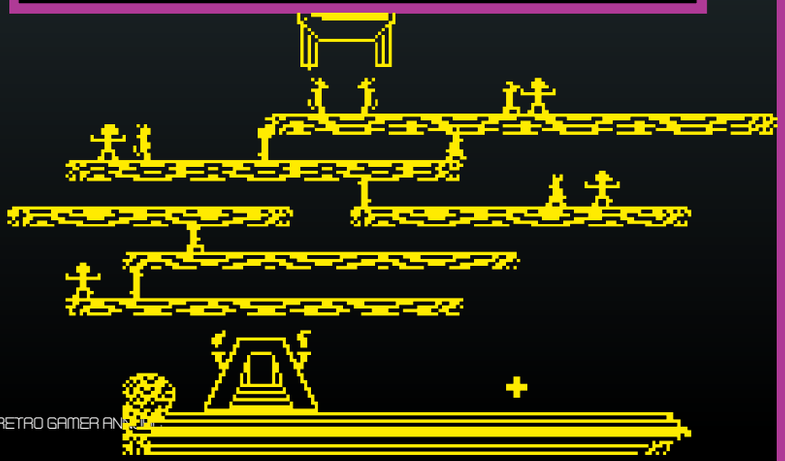


» [ZX Spectrum] Ocean's last ever Spectrum release was, you guessed it, a film licence – *The Addams Family*.

"THE SPECTRUM'S COMMERCIAL LIFE WAS OVER, BUT THE VAST LIBRARY OF GAMES WOULD LIVE ON"

CHIP OFF THE BLOC

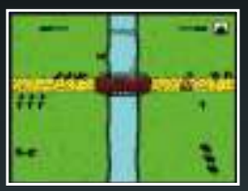
The Spectrum, or at least unofficial clones of it, was extremely popular in the Eastern Bloc. As such, there was strong demand for new software in these countries and commercial releases continued throughout the Nineties. *Dizzy* clones were popular, but there were a number of innovative titles released too. Of special interest are the 1995 point-and-click adventure *Twilight* from Ultrasoft (pictured) and the 1997 real-time strategy game *Black Raven* from Copper Feet.



DEFINING GAMES

NORTH & SOUTH

PUBLISHER: INFOGRAMES
DEVELOPER: NEW FRONTIER
HIGHEST SCORE: 96% (CRASH)
YEAR: 1991



This 16-bit hit translated really well to the Spectrum, with one caveat – you had to play it on disk. On tape you were forever loading in the different sections (and the train robbery sequence was missing); on disk it was faultless.

HEROQUEST

PUBLISHER: GREMLIN GRAPHICS
DEVELOPER: GREMLIN GRAPHICS
HIGHEST SCORE: 93% (CRASH)
YEAR: 1991

Based on the 16-bit version, which in turn was based on the popular board game, this was an excellent RPG that you could sink hours into. And if you wanted more, the *Return Of The Witch Lord* expansion also made it the Spectrum.

SMASH TV

PUBLISHER: OCEAN SOFTWARE
DEVELOPER: PROBE SOFTWARE
HIGHEST SCORE: 97% (CRASH)
YEAR: 1991

Released in late 1991, this was one of the final big releases from Ocean, and it certainly wasn't a token effort. Featuring nice chunky sprites, copious amounts of colour and relentless action from the get-go, it did justice to the wild coin-op.

LEMMINGS

PUBLISHER: PSYGNOSIS
DEVELOPER: PSYGNOSIS
HIGHEST SCORE: 91% (YOUR SINCLAIR)
YEAR: 1991

This cutesy save-'em-up was ported to every viable platform under the sun and the Spectrum was not overlooked. Our version was monochrome and lacked mouse support, but it was basically *Lemmings* and what was not to love about that?

PRINCE OF PERSIA

PUBLISHER: MAGIC SOFT
DEVELOPER: REVELATION
HIGHEST SCORE: N/A
YEAR: 1996

Originally developed in 1993 by the team behind the impressive SAM Coupe version, it failed to find a publisher – only for the game to surface in Russia in 1996 as a commercial release. We don't know how that happened but we're happy it did.

"THE HEADLINE EVENT IN RECENT YEARS HAS BEEN THE INTRODUCTION OF THE SPECTRUM NEXT"

2000+

The early Noughties were a lean time in the Spectrum world with very few new games of note. Standout titles included the Russian-developed titles *Existenz* (2000), *Abe's Mission: Escape* (2002) and *Fire 'N Ice* (2003). Keeping up the British end was Jonathan Cauldwell, a programmer who'd previously written games that had appeared on magazine covertapes. He returned to the Spectrum scene and worked up a number of wonderful homebrew titles including *Egghead In Space* (2002), *Fun Park* (2004) and *GamesX* (2006). Fellow Brit Bob Smith was another prolific programmer, writing *Stranded* (2005), *Farmer Jack* (2006) and *splATTR* (2008). Many of Jonathan and Bob's games would receive physical releases by Cronosoft, an 8-bit publishing label established in 2002 by Simon Ullyatt.

Perhaps Jonathan's most important release was Arcade Game Designer. This free game-creation tool debuted in 2008 and has since provided the foundation for numerous Spectrum games. Another tool, La Churrera from Spain's Mojon Twins, has also bolstered the quantity and quality of new releases in recent years. Elsewhere programmers have used their mastery of Z80 assembler to create stunning-looking releases that would have gob-smacked people back in the Eighties. Special mention must be given to games like *Dreamwalker* (2014), *Stormfinch* (2015) and *Snake Escape* (2016) which use Einar Saukas' Nirvana Engine to display up to eight colours per character square rather than the usual two colours.

Of course the headline event in recent years has been the introduction of the Spectrum Next. This Sinclair-branded machine really is a true evolution of the Spectrum, supporting the original software and hardware while introducing enhanced audio and video capabilities. It's just the kind of computer you can imagine Sinclair or Amstrad might have made had they meaningfully upgraded the hardware. So in the end fans got the 'Super Spectrum' they wanted – they just had to wait 30+ years for it to arrive (and slightly longer still for those backers of the second Kickstarter campaign).

In a nice full-circle move, the Next team called on Rick Dickinson, the designer of every Spectrum model produced by Sinclair, to design the computer's external casing. Rick sadly died in April 2018, and the community suffered another huge loss in September 2021 when news reached us that Sir Clive had passed away. Sir Clive rarely reflected on the Spectrum, preferring instead to focus on his latest project, his next invention, but he surely would have been proud to see his computer command so much love and respect 40 years after it launched. Who knows what will happen over the next ten years but it will certainly involve new hardware, new software and new stories.

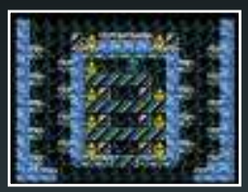
SPECTRUM TURNS 30

In April 2012 fans from around Europe converged in Cambridge to celebrate the Spectrum's 30th anniversary. MJ Hibbert kicked off the show in style with a live performance of his Spectrum ode *Hey Hey 16K* and several celebs were in attendance including Spectrum designer Rick Dickinson (pictured) and *Football Manager* creator Kevin Toms. The weekend also included tours of the old Sinclair building. A show to celebrate the 40th anniversary will take place in April 2022.

DEFINING GAMES

FIRE 'N' ICE

PUBLISHER: N-DISCOVERY
DEVELOPER: N-DISCOVERY
HIGHEST SCORE: N/A
YEAR: 2003



The NES-only sequel to *Solomon's Key* was converted to the Spectrum in 2003 and it was one of the first titles to really draw attention to the growing homebrew scene. The presentation throughout is excellent with playability to match.

SPECCY BROS

PUBLISHER: CLIMACUS
DEVELOPER: CLIMACUS
HIGHEST SCORE: N/A
YEAR: 2012

In 1991 *C&VG* announced that Toaplan's *Snow Bros* was Spectrum-bound. It never arrived, but in 2012 this excellent homebrew version did appear. Apart from being single-player only, it's even more fun than lobbing snowballs in real life.

METAL MAN REMIXED

PUBLISHER: OLEG ORIGIN
DEVELOPER: OLEG ORIGIN
HIGHEST SCORE: N/A
YEAR: 2015

This impressive shooter is one of the most technically advanced and visually arresting titles to ever grace the Spectrum (particularly in its final *Remixed* form). In a parallel universe you can imagine Ocean releasing this as *RoboCop 8*.

CASTLEVANIA: SPECTRAL INTERLUDE

PUBLISHER: REWIND TEAM
DEVELOPER: REWIND TEAM
HIGHEST SCORE: N/A
YEAR: 2015

Castlevania on the Spectrum sounds like a stretch, yet in 2015 the Rewind team delivered a stunning appropriation that features more than 150 screens to explore and 10 enemy types to whip into next week. One of the best homebrews ever made.

WONDERFUL DIZZY

PUBLISHER: TEAM YOLKFOLK
DEVELOPER: TEAM YOLKFOLK
HIGHEST SCORE: N/A
YEAR: 2020

There was some commotion when it was revealed that this wasn't exclusive to the Next, but when it looks this good, who cares? If you've missed *Dizzy* then you'll be bowled over by this 2020 adventure. It's (what else) absolutely brilliant!

SPECTRUM FOREVER

MEET THE PASSIONATE INDIVIDUALS THAT ARE STILL KEEPING THE SPECTRUM ALIVE AND WELL

MARK HOWLETT [AKA LORD ARSE]

SPECTRUM SUPERFAN MARK HAS BEEN A SPECCY ADDICT SINCE 1984

"My first Spectrum was the good ol' rubber 48K. I got it as a Christmas present way back in 1984 from my parents. There were so many great games for the Speccy, it's hard to only pick a few favourites, like Matthew Smith's superb *Manic Miner* and *Jet Set Willy*. I must have spent weeks just seeing how far I could travel in that mansion. And *The Lords of Midnight* – not just a technical marvel but a wonderful adventure/strategy game to boot. I still regard this as one of the best computer games of all time. It's not difficult to see why the Spectrum was so important in the history of the British gaming industry. It's still popular today because it was such a formative part of so many of our lives growing up, and thanks to a large online community, we can still reminisce about the good old days when life was simple and we could come home from school and load up *Skool Daze*! And because there's still so much of an interest, people are still producing fanzines, games, hardware, even brand-new models."

EINAR SAUKAS

BRAZILIAN DEVELOPER OF THE ZXDB, A DATABASE OF EVERY SPECTRUM GAME

"My first Spectrum was a Brazilian clone called TK90X. It was a dream machine to program: simple yet powerful (for its price) and extremely flexible. Moreover, the available games had such creativity and variety that it explains the Spectrum's popularity even nowadays. This computer had a profound influence on my life, leading me to graduate in both electronic engineering and computer science and follow a career in IT consulting. Then I created ZXDB, intended to be just a week's effort. In 2013, the main Spectrum site at the time stopped updating when its founder left. I was so worried that decades of information could be lost, that I designed ZXDB as an open, free database for everyone. I never intended to continue afterwards but it snowballed into such a large community project that I had to keep it going. Nowadays ZXDB is integrated or used by every major Spectrum site, supported by many applications, emulators and even chatbots, accessible from Spectrum Next to Apple TV. Who could imagine?"

KIM JUSTICE

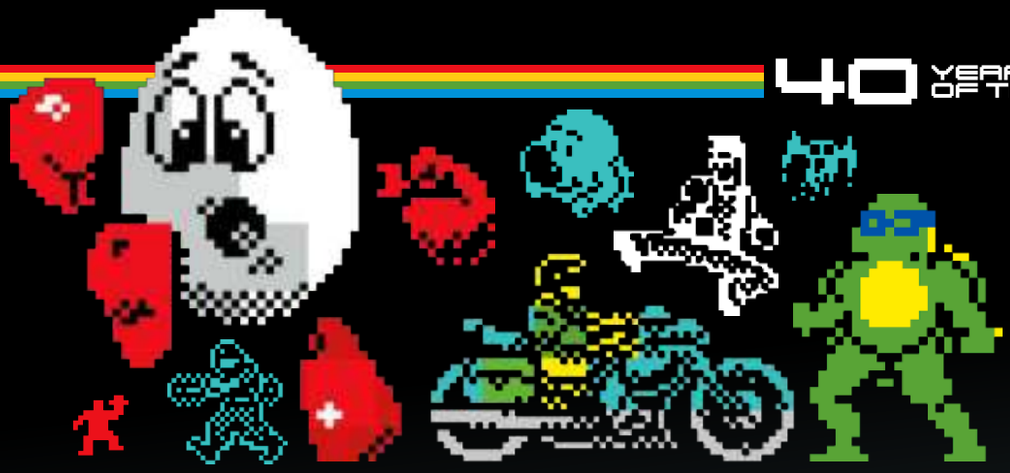
YOUTUBER KIM HAS BEEN CREATING FANTASTIC VIDEOS ON THE ZX SPECTRUM FOR MANY YEARS

"My first Spectrum was one of the later ones: a +2a. It was bought by my parents from an old Tandy shop in about 1990 and I think they hoped I'd use it to learn coding or something like that. Naturally, that didn't happen! I have a few favourites: *Deathchase* always stands out as it's one of the first games I ever played, and you just can't beat the feeling of riding a bike through a forest in glorious 16K. As to the Spectrum's success… I reckon that the affordability had a lot to do with it. In a time when most computers were quite expensive, Sinclair came out with a computer that was, relatively speaking, very cheap indeed. Sure, there were compromises and the build quality certainly wasn't the best, but it got momentum, and from there the software gave the system its idiosyncratic personality and identity. Sir Clive may not have been particularly big on the gaming side of the machine, but it's hard to contemplate a UK gaming industry or even a market, without its existence."

MEV DINC

SPECTRUM DEVELOPER IN THE EIGHTIES BEHIND GAMES SUCH AS LAST NINJA 2 AND ALIENS

"The beloved Speccy certainly changed my life and as such it holds a special place in my heart. I learned all about game development on this little wonder computer. The ZX Spectrum was a pioneering machine of the early days. It offered no fancy hardware sprites or a sound chip, but its limitations provided us with unlimited ways to push its spec to the limit. As a result, there were some truly great games created with it such as *Ant Attack*, *Knight Lore*, *Enduro Racer*, *Horace Goes Skiing* and *Cybernoid* to name but a few. I learned machine code programming and thoroughly enjoyed working on it. I guess, my finest programming achievement on the Speccy has to be *Last Ninja 2*."



TIM FOLLIN

SPECTRUM SOUND AND MUSIC ENGINEER – BEFORE THAT JOB TITLE EXISTED!

"I first saw a Spectrum and *Manic Miner* at my cousin's and was immediately sold – I knew I had to have one! However it was my older brother Mike who first bought one, I was about 13 at the time and remember just staring at the screen and watching everything he did. I got my Spectrum the following year and spent Christmas day playing *Knight Lore*. I loved the fact that it made a colourful image on a TV – that doesn't sound like much but at the time the only things you ever saw on a TV were TV programmes, so the idea of being able to create bright and colourful images on a TV was itself novel. The Spectrum was the cheapest colour home computer on the market and there were already hundreds of games available for it by the mid-Eighties – I would have chosen the Spectrum over everything else purely for the games available, so the fact that it was also the cheapest colour computer on the market made it a no-brainer. To be honest, at first, I didn't pay that much attention to the sound. I knew it was simple and had clearly been a very low priority for the computer's designers, but it was only when I started to experiment with Z80 machine code that I realised how the 'beep' sound was being created, which led me to start experimenting with alternative ways to generate audio. It was completely instrumental in kick-starting my whole career!"

PHIL 'SNOUTY' SOUTH

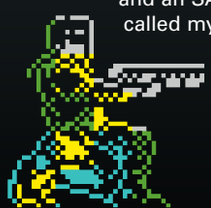
GAMES JOURNALIST FOR THE SKILLO SPECTRUM MAG, YOUR SINCLAIR

"I bought my original Spectrum 48K from Boots in Hemel Hempstead in 1983. Initially, my favourite games were the games I had, *Jetpac*, *Pssst*, *Manic Miner*, *Ant Attack*, *The Hobbit* and *The Lords Of Midnight*. Later on, when I started working for magazines and got all my games for free I had too many favourites to count, but the ones that stuck in my mind were *The Sentinel* (which I often say is my favourite all-time game on any platform), *Tir Na Nog*, *Trap Door*, *Jet Set Willy* and *The Rocky Horror Picture Show*. Working at *Your Sinclair* was about as much fun as you would expect x1000. Marcus [Berkmann], Teresa [Maughan] and I were the original Scooby Gang and got to sit about making jokes all day while playing games, drinking lunchtime and evening, writing for a living and getting PAID while doing so. As to the Speccy, it delivered the promise of computer gaming to a huge chunk of the population who couldn't otherwise afford the price of entry. It was a democratising piece of tech, allowing any kid with half a brain cell to play and better yet WRITE credible games. It's the true start, at least in the UK, of the videogame revolution and its tentacles wind through all the dark crevices of the industry even 40 years later."

JAMES O'BRIEN

JOURNALIST AND BROADCASTER

"My mate Tim got a ZX81, that was the gateway computer. I was saving up for the ZX81 when the Spectrum came out and I had to have one. I still wish I'd stuck with an early enthusiasm for programming but I mostly remember feeling that you could have a whole arcade in your bedroom and wondering how on Earth people could afford to buy more than a game or two a year. Favourite games? It's hard to narrow it down but *Jet Set Willy*, obviously, and *Horace Goes Skiing*. A game called *The Secret Of St Brides* blew me away and Domark's *Eureka!*, which had a £25,000 prize I got quite close to winning, was amazing. I've tried to play some of them since and can't believe how patient we must have been at the time. When I'd got really into adventures I sent a list of the ones I'd completed to *Sinclair User* offering to help people in return for 20p and an SAE – it was a regular feature I wasn't being weird. I called myself the 'Perambulin Goblin' which sounded suitably Tolkeinish and, to this, day if you Google that you'll find a PDF of the mag and my old address! As for the Spectrum, apart from those multiple-choice adventure books and the clunky consoles, it was the first thing we could do that was truly interactive. Communicating with a machine, taking part in stories. It was next level."



ROGER KEAN

EDITOR, CRASH MAGAZINE

"Franco Frey brought a 16K Spectrum to Ludlow one weekend. We plugged it in, loaded up some *Defender* clone and it knocked us out. Of course, the graphics were simple, but there was no denying the excitement of seeing interaction on your own telly rather than in the arcades. It was popular for several factors: price, especially when compared to other platforms, and the relatively low cost of the games. I believe the quality and the imagination of the gameplay also captured owners' hearts and easily matched what was available elsewhere. Oddly, the rivalry between the Commodore 64 and Spectrum probably helped as well."

James O'Brien image © Roger Green

THE RETRO GAMER GUIDE TO commodore 64

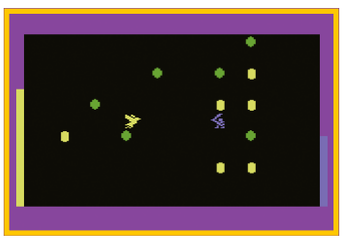
It may not have been designed as a games machine, but games dominated the C64 and turned it into a fertile breeding ground for modern developers. 40 years on, we revisit its greatest hits

WORDS BY DARRAN JONES

Commodore's 8-bit home computer made a huge impact when it landed 40 years ago in 1982. The company was no stranger to the 8-bit market, having already released systems like the Commodore Pet and VIC-20, but Commodore's owner, Jack Tramiel, wanted to dominate the market, and he aggressively marketed the C64, cutting its price by $200 a few months after its release, as well as using a casing that was extremely similar to the C64's predecessor, the Commodore VIC-20.

The C64 may have looked extremely similar to the humble VIC-20, but there were huge differences beneath the bread bin-like exterior. For starters, it featured a whopping 64KB of RAM with an additional 20KB of ROM, better resolution and incredible sound thanks to the SID (Sound Interface Device) chip, which allowed talented musicians like Rob Hubbard and Ben Daglish to create incredible tunes for the machine.

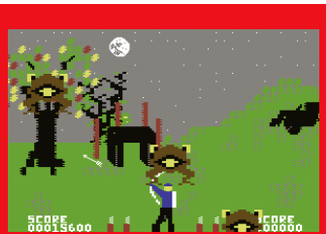
The C64 would eventually go on to shift over 30 million units, making it the best-selling home micro of its time. It might not have been designed as a pure games machine, but that's what it's arguably best remembered for. So here are some of the finest games the C64 has to offer. If you've ever considered collecting for it then these titles are the perfect place to start.

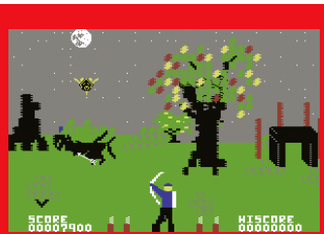


ARCHON: THE LIGHT AND THE DARK 1983

ELECTRONIC ARTS

If you glanced at *Archon* really quickly you'd probably mistake it for an ugly game of chess. Look past its basic visuals, however, and you'll discover a surprisingly gripping strategy game where fantastical monsters battle each other to control five strategic power points in order to win the game. Alternatively, you can simply eliminate all of your opponent's creatures, which is much more satisfying.

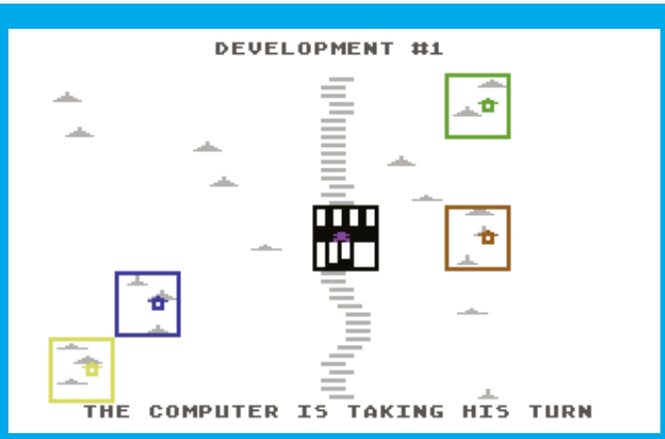




FORBIDDEN FOREST 1983

COSMI CORPORATION

This early offering from Paul Norman features huge animated sprites, slick parallax scrolling, cool pseudo sprite scaling and even day and night cycles. It's not the prettiest game in the world, but it's exceptionally atmospheric and creates a building sense of dread as the later enemies (which range from giant spiders to dragons and demogorgons) come at you thick and fast. Despite the danger, you only have a limited number of arrows, so you need to make sure that every shot counts.



MULE 1983

ELECTRONIC ARTS

Like several early C64 games, *MULE* started off on Atari's 8-bit range. Taking place on the planet Irata (Atari spelt backwards), you must use your MULE (Multiple Use Labour Element) to harvest various resources, all of which can potentially impact on your turn in some fashion. While the AI puts up a good fight, it's best played with friends.

DINO EGGS 1983

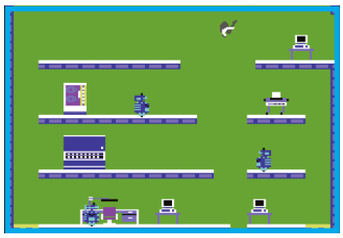
MICRO FUN

This platformer is surprisingly complex, but no less enjoyable for it. Playing a time traveller, you must collect dinosaur eggs to transport back to your present time to earn points. Rocks must be pushed away to uncover eggs (and hit nearby enemies), and you also need to build a fire to fend off the mother dinosaur, who shows up by way of a gigantic stomping foot.

DROPZONE 1984

US GOLD

Archer Maclean's scintillating shooter may have liberally borrowed elements from *Defender* (even the font is the same), but it retains its own identity. Taking control of a jetpack-wearing hero, you zip across Jupiter's moon, picking up scientists while avoiding numerous enemies. It's the perfect twitch shooter and belongs in every C64 owner's library.



IMPOSSIBLE MISSION 1984

EPYX

Elvin Atombender's taunting voice during the game's opening sounds a little less ominous nowadays, but Dennis Caswell's platformer is still exceedingly compelling to play. The aim is to infiltrate Atombender's lair by dodging robots and searching numerous pieces of furniture and machinery for the missing code pieces that must be assembled so you can shut down the computer in Atombender's control room. A sequel was released in 1988.

PARADROID POWER

Andrew Braybrook on his inventive 8-bit shooter

Paradroid successfully combines two distinct genres. Did you purposely try to create something different?

I always followed my nose, trying to design a game that I would enjoy playing. I was more interested in using the technology to do something new. I would start with building the scrolling system and see what dropped out. This game was designed almost overnight as I walked home. I wrote down all the ideas I wanted to incorporate on one sheet of paper and all of those ideas went in.

Where did _Paradroid_'s droid-swapping originate?

I think the idea germinated from an arcade game we used to play where you played a commando who could leap into a tank and use it. When it got hit you had a couple of seconds to leap out before it blew up, and then you could go and find another tank. I quite liked the two different states and that you were protected by the tank. Having decided on the radar-style display for the robots, I could save all the complex graphical images for all the directions of movement. It also allowed a greater variety of weapons, though it wasn't expressed fully until _Paradroid 90_. I understand that a number of games have used a similar system since, so it must be quite appealing.

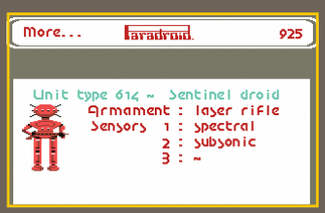
What was the reasoning behind the update, _Heavy Metal Paradroid_?

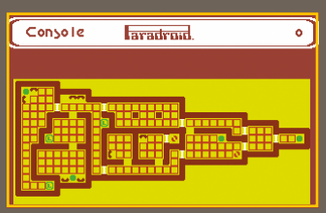
I was writing _Morpheus_, and had a 'curved metal' graphical

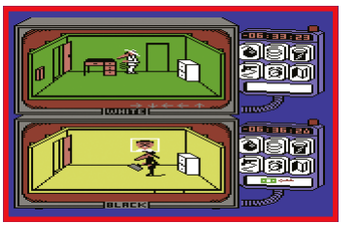
look that I had concocted in a graphics editor. It was early days for the game, and I didn't have a game system to experiment with, so I decided to substitute the _Paradroid_ background graphics with the _Morpheus_ ones. I had taken delivery of a Commodore 128, and one of the features on it was that you could switch the CPU into double-speed mode while the raster was off the screen, which bought about 30 per cent more processing time. So I wanted to get _Paradroid_'s scrolling a bit smoother. It turned out that I could get it running smoother even on a Commodore 64, and I really liked the new graphical look, so we did a new turbo loader and re-released _Paradroid_.

Why do you think _Paradroid_ remains so popular with gamers today?

I guess that everyone gets something different from a game. Maybe that's it. _Paradroid_ is a very dynamic game; even though each ship is set up broadly the same, it is running everything on each deck as you arrive so it plays differently every time. As a player, you also have a great deal of freedom as to how to tackle the ship as a whole and each deck individually.







SPY VS SPY 1984

FIRST STAR SOFTWARE

This adaptation of the _Mad Magazine_ comic strip is an essential multiplayer experience. Your aim is to collect a set amount of items and make your way to an awaiting plane before your opponent does. While you can delay your rival spy by taking part in niggly hand-to-hand combat, it's far more fun to lay traps for the poor bugger instead. Several sequels followed.

WINTER GAMES 1985

EPYX

Epyx's sequel to _Summer Games_ cashed in on the Winter Olympics that had happened the previous year. While the figure skating is a little lame, the remaining seven events are all entertaining and include a diverse range like bobsled, ski jumping and the energy-sapping biathlon. It caters for up to eight players if you can find enough friends to join in.

THE PAWN 1985

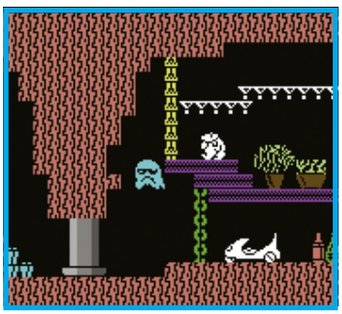
RAINBIRD

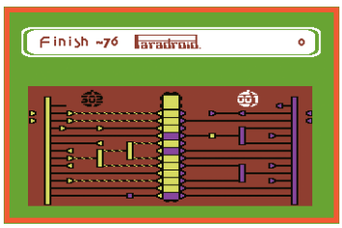
Although graphic adventures truly shone on the 16-bit home computers, this absorbing offering from Magnetic Scrolls is certainly worth playing on the humble C64. While the artwork is of an incredibly high standard, it's the clever story, entertaining characters and fun writing that keeps you playing. Thank goodness the internet exists, though, as it's not as easy as we remember it.

MONTY ON THE RUN 1985

GREMLIN GRAPHICS

If you want your ears to love you forever then make sure they listen to Rob Hubbard's astonishing soundtrack, particularly the main theme. Inspired by Charles Williams' _Devil's Galop_, it's an insanely catchy tune that slowly builds in pace until it becomes impossible to stop humming along to. Oh, the game's good too…

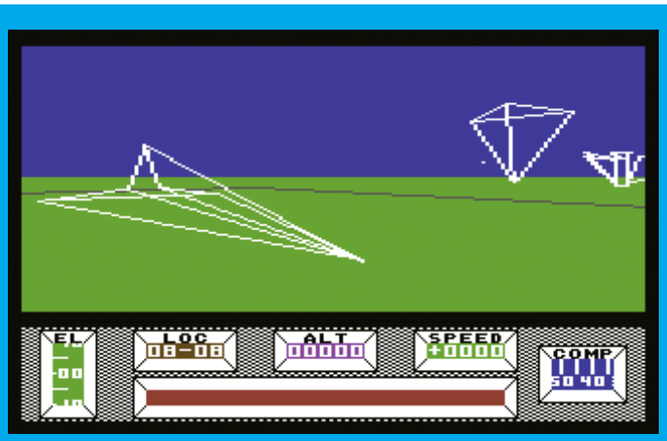




PARADROID 1985

HEWSON CONSULTANTS

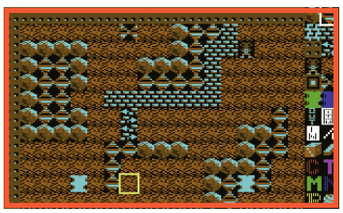
Andrew Braybrook's _Paradroid_ is an engaging blaster that combines his love of arcade shooters with something a little more thought-provoking. Playing as a lowly defence droid, you must make your way around the huge levels by hacking more powerful droids (via a neat minigame) and taking control of them. Interestingly, rather than simply try to aim for a high score, you can attempt to gain control of the unstable 999 droid for a more satisfying challenge.

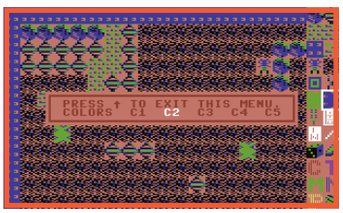


MERCENARY: ESCAPE FROM TARG 1985

NOVAGEN SOFTWARE

Few games left a first impression like *Mercenary*. Famed at the time for its smart vector and polygonal graphics and its dynamic, open-ended gameplay, it has sadly gone on to outlive its creator, the private Paul Woakes. *Mercenary* still holds up well today, and was succeeded by two 16-bit sequels, *Damocles* and *Mercenary III*.





BOULDER DASH CONSTRUCTION KIT 1985

FIRST STAR SOFTWARE

You don't realise how hard it is to create videogames until you use something like Peter Liepa's excellent level designer to make your own. In addition to being very simple to use (everything is icon driven), it also comes with additional caves and intermission screens to plough through, meaning you'll be entertained for absolutely ages. You're only really limited by your imagination.

BOUNDER 1986

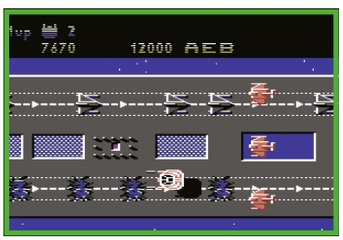
GREMLIN GRAPHICS

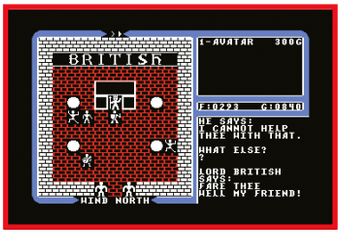
This quirky little offering from Christian Shrigley and Andrew Green is one of those joyously crazy concepts that could have only been thought up in the Eighties. Playing as a tennis ball, you must make your way through a continually scrolling stage bouncing on grey slabs while avoiding everything else. It's not easy at first, but you soon get into the swing of things, as you constantly look out for teleporters, jump bonuses and other useful power-ups.

URIDIUM 1986

HEWSON CONSULTANTS

More arcade-inspired brilliance from Andrew Braybrook. While *Uridium* made it to several other 8-bit home computers, it truly shone on the Commodore 64. It boasts super-slick scrolling as your Manta zips above the huge ships, shooting down enemies and avoiding installations. It's fast and furious, and you'll need more than a little luck to reach the final stage. Interestingly, it also crops up on the NES with modified graphics as a tie-in for the 1984 film *The Last Starfighter*.





The ticket taker at the RenFair's gate
starts to ask you for money, but upon
spotting your Ankh says, 'Welcome,
friend. Enter in peace and find your
path.'

ULTIMA IV: QUEST OF THE AVATAR 1986

ORIGIN SYSTEMS

There are several *Ultima* games on Commodore's machine, but the fourth outing is arguably the best in terms of its accessibility and structure. It shifts away from the simple combat-based dungeon-crawling elements of the earlier games in order to deliver an adventure that's rich with narrative nuance.

LEADERBOARD GOLF 1986

US GOLD

The courses can take a little while to load, but *Leaderboard* still plays a mean round of golf. It's largely down to the beautifully refined swing mechanic that gives you a surprising amount of control over the ball, but it's also because of the exceptionally designed courses.

MANIAC MANSION 1987

LUCASFILM GAMES

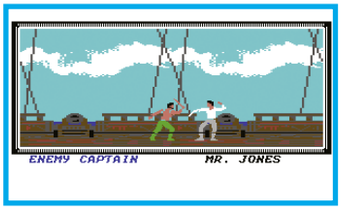
Ron Gilbert's innovative point-and-click adventure is still hilariously entertaining to play today. The first game to use the popular SCUMM engine is full of humour, has an array of zany characters to meet and turns a lot of typical adventure conventions on their heads. A sequel would appear six years later in the form of Tim Schafer's equally brilliant *Day Of The Tentacle*.

SID MEIER'S PIRATES! 1987

MICROPROSE SOFTWARE

The first game to bear the Sid Meier moniker would indicate the quality you could expect from his later releases. It remains an enthralling open-world game that splices different genres and playing styles together while utilising a dynamic playing field that continually offers the player new choices as play progresses.

FINALLY, YOU ENCOUNTER SAILORS IN A PORTSIDE TAVERN. DOWN TO THEIR LAST FEW GOLD DOUBLOONS, "MATE," THEY CALL, "HELP US REFILL OUR PURSES. COME TELL US WHEN THE TREASURE FLEET ARRIVES AT HAVANA IN 1640, MR. JONES?"
PRESS TRIGGER TO CONTINUE



BARBARIAN: THE ULTIMATE WARRIOR 1987

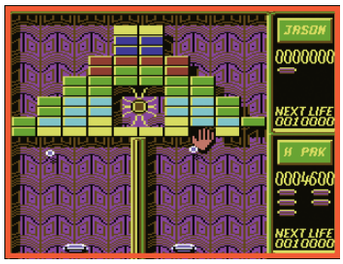
PALACE SOFTWARE

While its cover featuring a skimpily clad Maria Whittaker and Wolf from *Gladiators* drew controversy from anxious parents, *Barbarian*'s content was even more graphic. The blood that gushes forth from the wounds you receive might look a little tame now, but the game-ending decapitation of your opponent remains just as effective. The controls are great too, and you're able to pull off a surprising amount of moves via just one fire button.

BATTY 1987

ELITE SOFTWARE

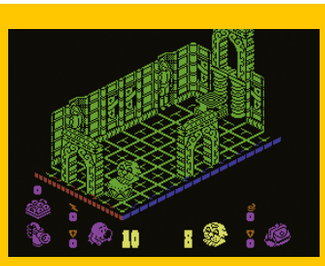
Although Batty is an *Arkanoid* clone, it's a far better one than most. This is mainly down to its tremendous two-player mode, which turns it into a truly entertaining affair. Your bat is extremely responsive, and there's a great selection of power-ups to discover, while the wall layouts are challenging but never unfair.

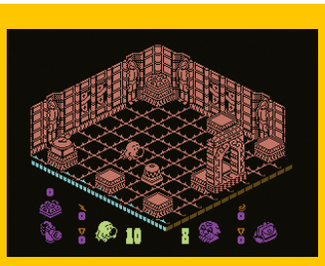


BUBBLE BOBBLE 1987

FIREBIRD

We didn't want to fill this list with arcade ports, but there are several that deserve your attention. *Bubble Bobble* is certainly one of them, offering surprisingly authentic-looking visuals, a joyously bouncy rendition of the theme tune and seemingly intact gameplay. Blowing bubbles to trap enemies and then bursting them for points sounds simple, but it gets surprisingly tough on the later stages.





HEAD OVER HEELS 1987

OCEAN SOFTWARE

Ignore the poor visuals and sluggish speed, as *Head Over Heels* remains an astoundingly good isometric adventure. Jon Ritman's game is full of charm and fiendishly designed stages, and is amplified by the late Bernie Drummond's excellent pixel work. It's a real adventure just getting the two alien agents together, and then the real fun begins.

CALIFORNIA GAMES 1987

EPYX

Its number of events may be paltry, but *California Games* is superb fun all the same. All six events (which include surfing, roller-skating, half-pipe, footbag, BMX and flying disc) play to a high standard, and have super-responsive controls. Epyx's game looks great too thanks to bright and colourful visuals that capture the carefree atmosphere of the Sunshine State.

"ITS NUMBER OF EVENTS MAY BE PALTRY, BUT CALIFORNIA GAMES IS SUPERB FUN ALL THE SAME"

IK+ 1987

SYSTEM 3

Who would have thought simply adding a third fighter would create such a different fighting experience? Archer Maclean did, and when he wasn't tracing over characters from *Grease* so he could create that signature backflip move, he was coding some gritty fight mechanics, improving earlier minigames and adding all sorts of cool visual treats in the background. What a legend.

WIZBALL 1987

OCEAN SOFTWARE

Wizball was the killer combination of Chris Yates' coding, Jon Hare's wonderfully stylistic visuals and an explosive soundtrack by Martin Galway. Charged with restoring colour to Wizworld, you must navigate each stage, shooting down enemies and using your helper, Catellite, to collect the coloured droplets of paint they leave behind. A surprisingly strategic blaster that simply oozes atmosphere.

BUGGY BOY 1987

ELITE SOFTWARE

Many consider Elite's version of *Buggy Boy* to be one of the best arcade conversions on Commodore's machine. While coder Dave Thomas couldn't replicate the three-screen panoramic display of the original arcade cockpit version, he did maintain the game's sheer speed and chaotic sense of fun. He even managed to include every level from the arcade original, too. It's a great achievement.

DEFENDER OF THE CROWN 1987

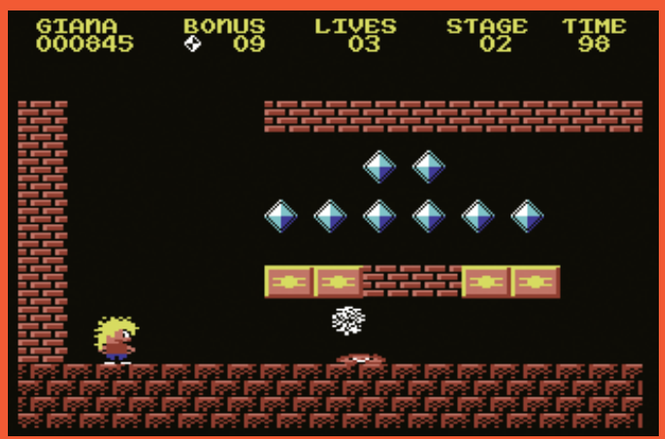
CINEMAWARE

Cinemaware's first release may have been designed to showcase the power of the Commodore Amiga, but the C64 version is no slouch, either. Like *Pirates!*, it offers plenty of different gameplay variations to keep you busy, but at its core is a pleasingly deep strategy game topped off by some truly exceptional presentation.

THE GREAT GIANA SISTERS 1987

RAINBOW ARTS

It's not hard to see why Nintendo worked so aggressively to get *The Great Giana Sisters* off store shelves. It has enough interesting ideas of its own, but it's clearly an incredibly impressive clone of *Super Mario Bros* on the NES. Its scarcity now means it goes for good money.



KIKSTART 2 1987

MASTERTRONIC

Shaun Southern's sequel greatly improves on his original 1985 offering. The speedometer and enhanced controls make it far easier to control your biker, while the 24 stages offer plenty of challenge. It's all topped off by an entertaining course editor. And to think this cost just £2…

ALIENS 1987

ELECTRIC DREAMS

We've steered away from film licences, but we did want to mention this solid adaptation by Electric Dreams. It utilises a first-person viewpoint to put you in the quaking shoes of the various marines to tremendous effect.

LAST NINJA 2 1988

SYSTEM 3

System 3 was a powerhouse on the C64, and the second part of its highly regarded trilogy is arguably its best game. The controls feel generally improved over the original 1987 adventure, the map design and visuals are more ambitious, and there's an atmospheric soundtrack from Matt Gray. The final game arguably ups the graphics ante, but we feel *Last Ninja 2* is a more balanced adventure.

KATAKIS 1988

RAINBOW ARTS

Katakis is such a good take on *R-Type* that Activision (the licence holder of the home ports) threatened infringement unless Factor 5 coded its Amiga port of *R-Type*. The team agreed, and Commodore owners enjoyed a game far better than the official port (which was also coded by *Katakis*' coder, Manfred Trenz).

MICROPROSE SOCCER 1988

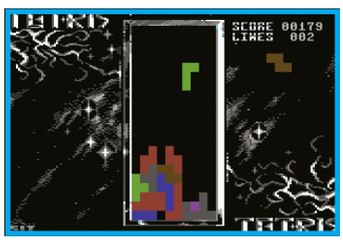
MICROPROSE SOFTWARE

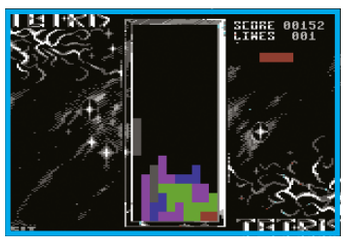
We were torn between this and *Match Day II*, but Sensible Software's slicker game was indeed the sensible choice. Despite the association with simulator experts Microprose, this is a fast-paced arcade take on football that actually features both traditional matches and six-a-side affairs, and has plenty of tournaments to get stuck into as well. It would be later refined in the form of *Sensible Soccer*.

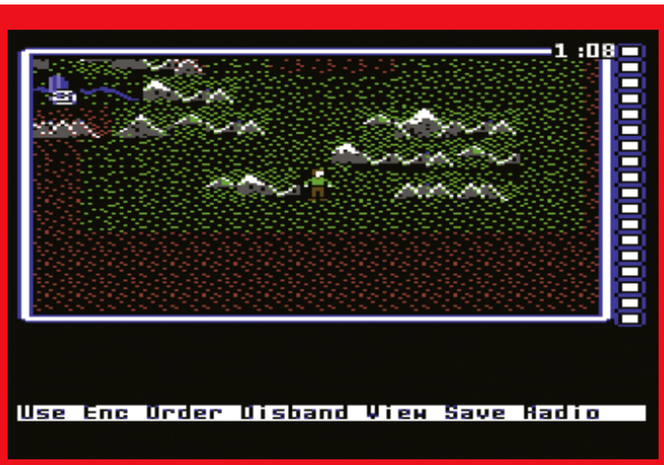
TETRIS 1988

MIRRORSOFT

While Alexey Pajitnov's game isn't the prettiest-looking thing in the world, it has lost none of its infuriatingly addictive gameplay from moving across to the Commodore 64. It's also blessed by an excellent audio track by Wally Beben that nicely complements the increasingly hectic on-screen action.







WASTELAND 1988

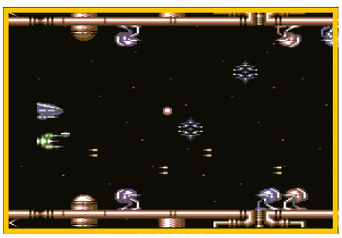
ELECTRONIC ARTS

We were torn between this and *The Bard's Tale* series (also by Interplay), but the apocalyptic RPG wins out because it still feels so fresh compared to other similar RPGs. Its game world still feels exciting to play in, while there's a large number of monsters and NPCs to interact with. Little wonder the sequel effortlessly smashed its Kickstarter in 2012.

ARMALYTE 1988

THALAMUS

The publishing arm of Newsfield Publications released some extremely popular games on the C64, but this tremendous shooter from Cyberdyne Systems is easily our favourite. There's a good range of power-ups to enjoy, the stage and wave design is challenging, but never overwhelming, while the bosses are fantastically satisfying to take down.



TURBO OUTRUN 1989

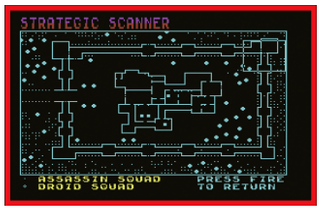
US GOLD

The home computer ports of *Outrun* were largely despised, but US Gold redeemed itself with its sequel by handing coding duties to Probe Software. The end result is an annoying multiload, but it's also one of the most entertaining arcade racers on the system. Steve Crow's chunky graphics look fantastic as well.

PROJECT FIRESTART 1989

ELECTRONIC ARTS

This tense cinematic adventure game riffs off *Aliens* and has a neat survival horror vibe to it. While there's plenty of action, you're often outgunned, so you need to use your brains as well as your shooting skills to succeed. Checking terminals reveal a back story to your investigations, which felt revolutionary back in 1989.



LASER SQUAD 1989

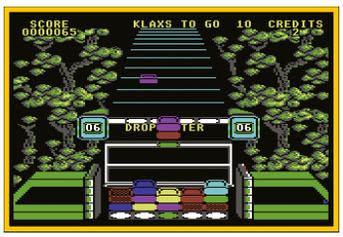
BLADE SOFTWARE

It may have taken an additional year to reach Commodore 64 owners, but Julian Gollop's Spectrum strategy hit was worth the wait. Successfully equipping and positioning your team is just as important as the turn-based gameplay, while the detailed missions are full of variety and powered by a slick menu-driven command system.

KLAX 1990

DOMARK

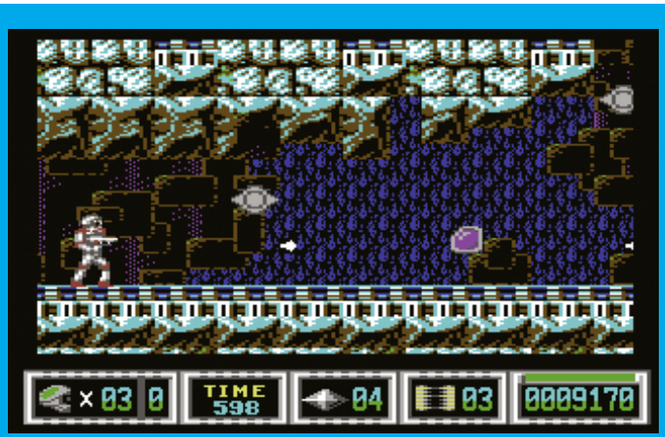
Based on the hit arcade game, *Klax* requires you to collect tiles as they fall off a moving escalator and dump them into a bucket in order to score points. It's a simple concept, but works well, and becomes very difficult to stop playing. Sadly, it lacks the arcade's enjoyable two-player mode, which is a little disappointing.



RAINBOW ISLANDS 1990

OCEAN SOFTWARE

More arcade perfection, this time in the form of Graftgold's stupendous conversion of Taito's *Bubble Bobble* sequel. While all of the 8-bit home conversions are good, the C64 offering is a step above them thanks to super-smooth scrolling, great music and excellent-looking cartoon-like visuals. It's missing three islands, but remains a remarkable achievement.



TURRICAN II: THE FINAL FIGHT 1991

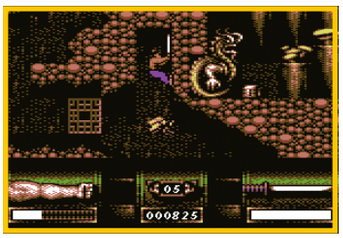
RAINBOW ARTS

Focus may have been moving over to the 16-bit systems by the early Nineties, but coders like Manfred Trenz were still delivering magic on the C64. *Turrican II* is a fine example, and it improves on the original in every way with better level design and beautifully designed bosses. Console versions exist in the form of a tie-in to *Universal Soldier*.

INTERNATIONAL TENNIS 1992

ZEPPELIN GAMES

There's a lot of content in this budget tennis game. You can play in a single match or tournament, it's possible to pull off a surprising range of different shots, and you can play on numerous courts. The animation throughout is fantastic too, and the collision detecting is fair, allowing for some great volleys.



FIRST SAMURAI 1992

IMAGE WORKS

Like many later C64 games, *First Samurai* pushed the machine to its limits, delivering amazing-looking visuals that would have been thought impossible a decade earlier. The game itself is highly entertaining, if a little difficult due to the endlessly respawning enemies. Stick with it though, as it's a sprawling adventure with plenty to discover.

MAYHEM IN MONSTERLAND 1993

APEX COMPUTER PRODUCTIONS

Eleven years after the Commodore 64 first launched, John and Steve Rowlands released their finest game for the aging home computer. Not only does it look incredible (you could imagine it appearing on the NES or Master System), it has the tight controls to match, delivering a rich platforming experience that puts many similar games on the C64 (or consoles for that matter) to shame.

MORE C64 CLASSICS TO CONSIDER

- **ZAXXON** 1984 SYNAPSE SOFTWARE
- **RAID ON BUNGELING BAY** 1984 BRODERBUND
- **GUNSHIP** 1986 MICROPROSE SOFTWARE
- **SKATE OF DIE!** 1987 ELECTRONIC ARTS
- **PROJECT STEALTH FIGHTER** 1987 MICROPROSE SOFTWARE
- **ZAK MCKRACKEN AND THE ALIEN MINDBENDERS** 1988 LUCASFILM GAMES
- **POOL OF RADIANCE** 1988 STRATEGIC SIMULATIONS INC
- **NEUROMANCER** 1988 ELECTRONIC ARTS
- SPACE ROGUE 1989 ORIGIN SYSTEMS
- **STUNT CAR RACER 1989 MICROSTYLE**
- **SUPREMACY 1991 MELBOURNE HOUSE**

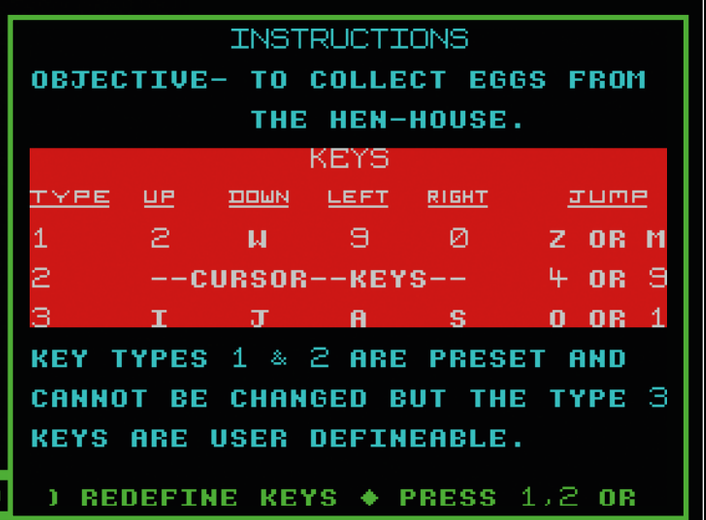
ULTIMATE GUIDE

CHUCKIE EGG

CHUCKIE EGG IS ONE OF 8-BIT COMPUTING'S MOST RENOWNED PLATFORM GAMES, ESPECIALLY ON THE ZX SPECTRUM AND BBC MICRO. JOIN RETRO GAMER AS WE CELEBRATE THIS EGG-SHELL-ENT GAME FROM THE SCRAMBLED MIND OF TEENAGE CODER NIGEL ALDERTON. [THAT'S ENOUGH EGG PUNS, THANKS – ED]

WORDS BY GRAEME MASON

» [ZX Spectrum] *Chuckie Egg* includes the option to redefine its keys, a rare thing in 1983.


INSTRUCTIONS
OBJECTIVE- TO COLLECT EGGS FROM THE HEN-HOUSE.
KEYS
TYPE UP DOWN LEFT RIGHT JUMP
1 2 W 9 0 Z OR M
2 --CURSOR--KEYS-- 4 OR 8
3 I J A S O OR 1
KEY TYPES 1 & 2 ARE PRESET AND CANNOT BE CHANGED BUT THE TYPE 3 KEYS ARE USER DEFINEABLE.
) REDEFINE KEYS ◆ PRESS 1,2 OR

Throughout the Eighties, rivalries ran deep and often within the UK home computing scene. Of course, ZX Spectrum versus Commodore 64 was one of the biggest conflicts; yet even within each computer's sphere there were other, smaller skirmishes where fans of a particular game or genre would espouse its virtues over any competitor. [It's never stopped - Ed] In the early days of the ZX Spectrum in particular, there was one such battle, instigated by the release of two classic platform games: the slower pace and puzzle-solving of *Manic Miner* versus the quick-fire bird-dodging of Nigel Alderton's fantastic *Chuckie Egg*.

Chuckie Egg begins quaintly. The scene is a country farmyard, owned by a stout farmer named Hen House Harry. Within each segment of Harry's hen enclosure there are a selection of eggs (between nine and a round dozen) which our brave agriculturalist must gather in order to sell at his local market. Also dotted around each screen are little piles of corn, collection of which is not necessary to complete a level; instead, these temporarily pause the timer while also giving Harry a small score bonus.

» [ZX Spectrum] Stage two includes the first gap in the floor, but otherwise it's a simple affair.

But things have gotten a little weird inside Harry's hen enclosure. While the Mother Duck hovers impatiently within her cage, tall ducklings – resembling aggressive ostriches – patrol each screen, waiting to corner Harry and remove one of his lives. Furthermore, each stage is craftily crammed full of platforms, ladders, gaps and lifts. While Harry is in possession of a limited jump and can scoot across the floor swiftly, falling between the lowest gaps on the screen is lethal to the diminutive egg collector. Conversely, he can fall the entire length of the hen house without penalty – a useful escape method if the ducklings are closing in.

The ducklings each occupy a preordained path, guarding eggs while pecking at any corn they encounter. Over the course of eight increasingly devilish stages, these large birds must be avoided using the ladders and platforms as, unlike in *Chuckie Egg*'s great rival *Manic Miner*, the enemies cannot be jumped ▶

> "The C64 version was straightforward but I wanted to take advantage of the enhanced capabilities of the Atari"
> Sean Townsend

CE EGG

EGG-SHELL-ENT PLAYING TIPS

EXCUSE THE PUNS AND FIND OUT HOW TO BECOME A HIGH-CLASS HEN HOUSE HARRY

KNOW THE SCORE

While there's no strict route to *Chuckie Egg*'s stages, there's always an optimum method according to the time-stopping corn and the pattern of the ducklings. By the time you're on the Mother Duck *and* ducklings a lot of this will go out of the window and it'll be more about simply staying alive.

HELL-EVATOR

Ah, the lifts. Inspired by the arcade game *Donkey Kong*, these rising slabs of yellow are the true test of *Chuckie Egg*. Fortunately for ZX Spectrum fans, Hen House Harry clips onto lifts should you slightly miss, yet it becomes more of a challenge once the Mother Duck finally leaves her cage in stage nine. Oh, and don't forget to get off the lift before it reaches the top.

THE MAIZE IN THE MAZE

If you're chasing a high score, those little piles of corn are invaluable in *Chuckie Egg*, each one accruing 50 points and a brief pause of the timer. Determined to grab them all? Then you've gotta be quick, as the ducklings will greedily peck away at any corn that is in front of them.

KEEP AN EYE ON THE SELL BY DATE

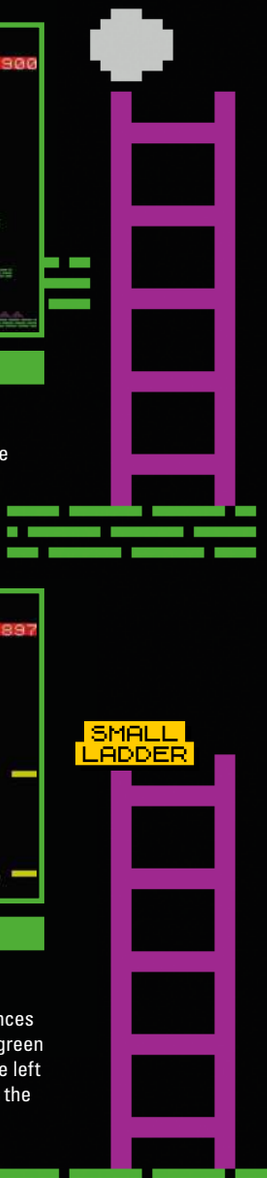
Those eggs aren't going to collect themselves, and while the time allotment initially appears generous, later levels can see that counter ticking down a little faster than Harry would like. Some stages such as the one pictured require a lot of backtracking; add in a chasing Mother Duck and Harry really has to keep his eye on the clock.

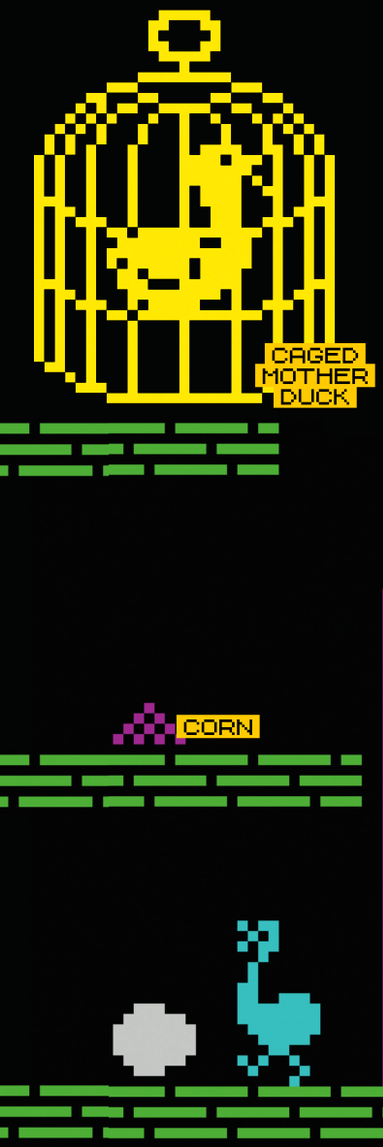
MIND THE GAP

While Harry can fall extreme distances without a scratch, should he slip through one of the holes in the floor, he'll lose a life. From stage two onwards there are varying degrees of gaps to watch out for, especially under the lifts. Fortunately, the ducklings cannot jump so if there's one on the other side of a gap, there's some temporary respite.

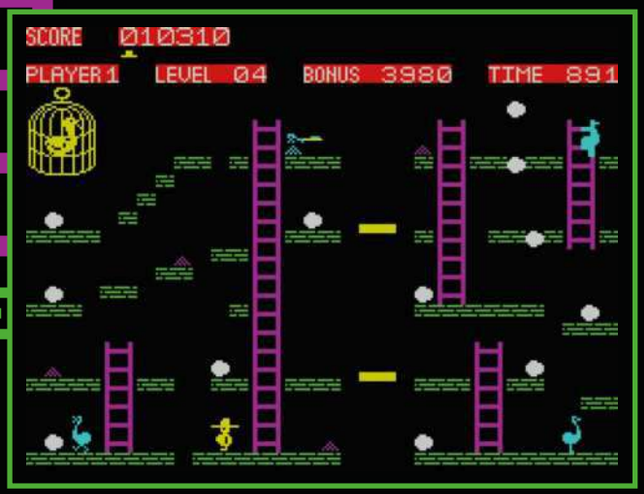
CRAZY PHYSICS

While many of *Chuckie Egg*'s ports included realistic physics, there's no such thing in the Spectrum original as poor Harry literally bounces around the levels, crazily rebounding off the green platforms. Worse are the invisible walls to the left and right: mistime a jump and Harry will miss the platform, usually into a waiting gap below.





» [ZX Spectrum] The first big challenge: stage three and its fast-moving lifts. Who puts lifts in a hen house?



» [ZX Spectrum] By stage 4, Harry has to get uncomfortably close to the Mother Duck in order to retrieve an egg.

▶ over. Each location increases the risk for Harry: stage one contains just two ducklings and nothing else to harm the farmer. Stage two introduces a hazardous gap in the bottom floor while the third stage brings the first of those troublesome lifts, a pair of open and quickly rising yellow slabs that can be used to rapidly ascend to the top of the screen. A genuine health and safety nightmare, failure to correctly alight onto a lift results in Harry plummeting downwards and into the gap below – another life gone. By stage four, the platforms are more devious with small gaps, broken ladders and treacherously perched eggs combining to make the egg collecting quest highly perilous. But for Harry, there's far worse to come.

From the very first screen of *Chuckie Egg*, the Mother Duck sits waiting in its cage high in the top left of the display. Throughout the first eight screens the player wonders what's going to happen with this plump imprisoned mum, enraged at the pilfering of her eggs beneath her. Upon completing stage eight, Harry is sent back

» [ZX Spectrum] Some piles of corn are impossible to collect before a duckling snaps them up.

CONVERSION CAPERS

COMMODORE 64

While it doesn't look too much like the Spectrum original, there's a certain appeal to the C64 game. The main sprite is ridiculously large (albeit multicoloured), lacks Harry's ZX zip and has an irritating sound effect every time he jumps. Yet somehow it all hangs together and plays fluently enough.

ATARI 800

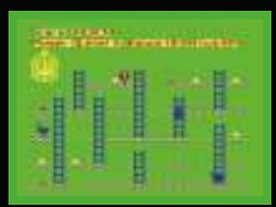
The Atari 800 game looks substantially different thanks to its impressive pseudo 3D effect platforms. We've also probably got the tallest Harry here although fortunately he can still navigate the stages with aplomb, although how that supremely irritating jump sound effect got through is anyone's guess.

BBC MICRO

Coded by A 'n' F boss Doug Anderson himself, this BBC Micro version of *Chuckie Egg* is the closest port in terms of display and considered superior in terms of gameplay by many thanks to its realistic physics. While it's an extremely close run thing, we just prefer the charisma of the Spectrum version.

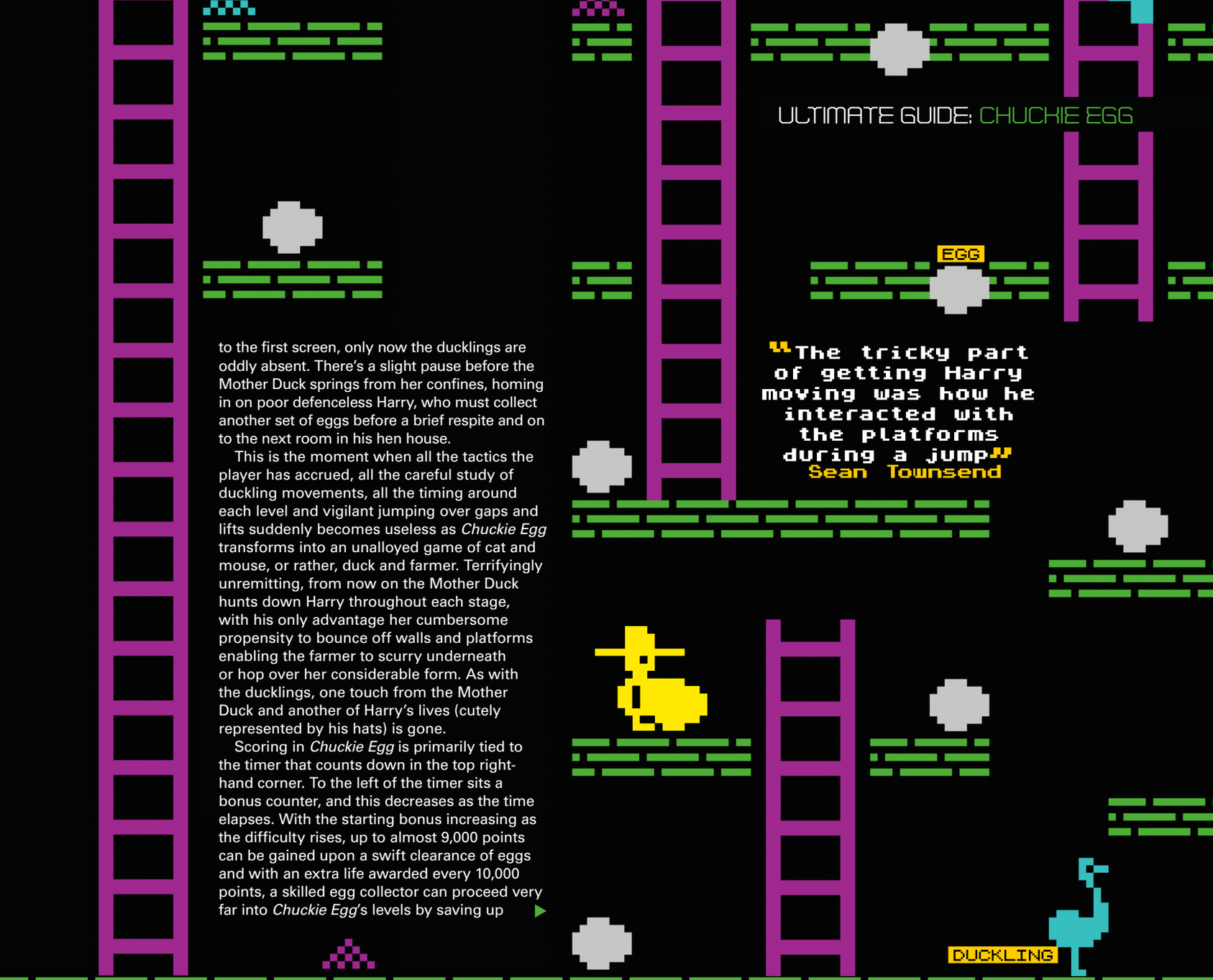
AMSTRAD CPC

The Amstrad CPC is another excellent stab at *Chuckie Egg* and shows no sign of cracking up against the Spectrum and BBC Micro versions. A slightly squatter screen display does the game no harm and Harry zips across the screen with the help of some sharp controls. This version also contains the nicest looking eggs.



DRAGON 32/64

It's hard not to admire A 'n' F's desire to ensure its star game got to as many platforms as possible and this Dragon 32 game, written by Mike Webb, is another commendable effort. Harry's gained a few pounds, but again, despite cosmetic differences, this is another decent albeit overly green take on Nigel Alderton's classic.


EGG
"The tricky part of getting Harry moving was how he interacted with the platforms during a jump"
Sean Townsend
DUCKLING

to the first screen, only now the ducklings are oddly absent. There's a slight pause before the Mother Duck springs from her confines, homing in on poor defenceless Harry, who must collect another set of eggs before a brief respite and on to the next room in his hen house.

This is the moment when all the tactics the player has accrued, all the careful study of duckling movements, all the timing around each level and vigilant jumping over gaps and lifts suddenly becomes useless as *Chuckie Egg* transforms into an unalloyed game of cat and mouse, or rather, duck and farmer. Terrifyingly unremitting, from now on the Mother Duck hunts down Harry throughout each stage, with his only advantage her cumbersome propensity to bounce off walls and platforms enabling the farmer to scurry underneath or hop over her considerable form. As with the ducklings, one touch from the Mother Duck and another of Harry's lives (cutely represented by his hats) is gone.

Scoring in *Chuckie Egg* is primarily tied to the timer that counts down in the top right-hand corner. To the left of the timer sits a bonus counter, and this decreases as the time elapses. With the starting bonus increasing as the difficulty rises, up to almost 9,000 points can be gained upon a swift clearance of eggs and with an extra life awarded every 10,000 points, a skilled egg collector can proceed very far into *Chuckie Egg*'s levels by saving up ▶

HOW DO THE ANTICS OF HEN HOUSE HARRY FARE ON OTHER COMPUTERS?

ELECTRON

While similar visually to the BBC Micro, there's a little slice of flicker to contend with in this Electron port, which can be a little off-putting at times. Otherwise it's virtually identical to its bigger brother and is ultimately another excellent way to play *Chuckie Egg* for owners of the Acorn home computer.

MSX

Full of colour, especially Harry's natty green hat, this is possibly the fastest version of *Chuckie Egg*. It's fantastic fun to begin with but a couple of things mark it down. Firstly, the jump mechanic isn't as refined as it could be. Secondly, getting on lifts is unnecessarily pedantic, sucking much of the enjoyment out.

ATARI ST

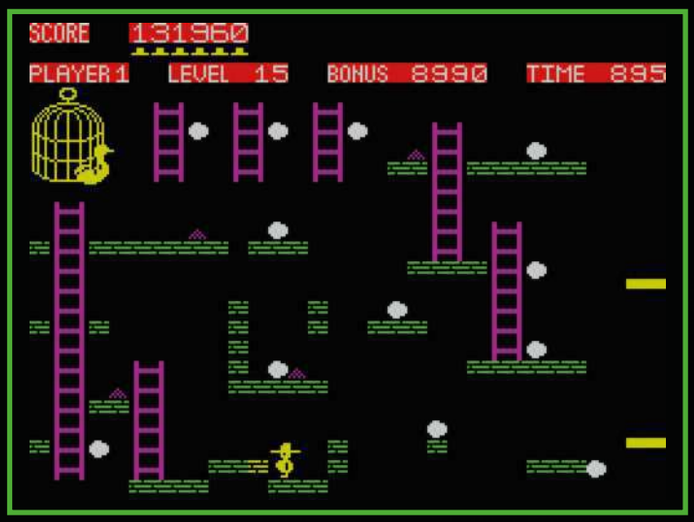
Somewhere between the original game's release late in 1983 and this Atari ST port five years later, Hen House Harry has morphed into an egg himself. In-game, Harry bizarrely explodes into a fried egg when caught by the ducklings but the backgrounds are improved as are the duckling sprites.

PC

Playing on the recommended EGA mode, this DOS version, coded by Ste Cork, runs at a fast pace and boasts a (free) range of colourful backdrops that won't help anybody predisposed to headaches. Harry himself looks good and moves swiftly, although the ducklings also have an increased turn of speed.

AMIGA

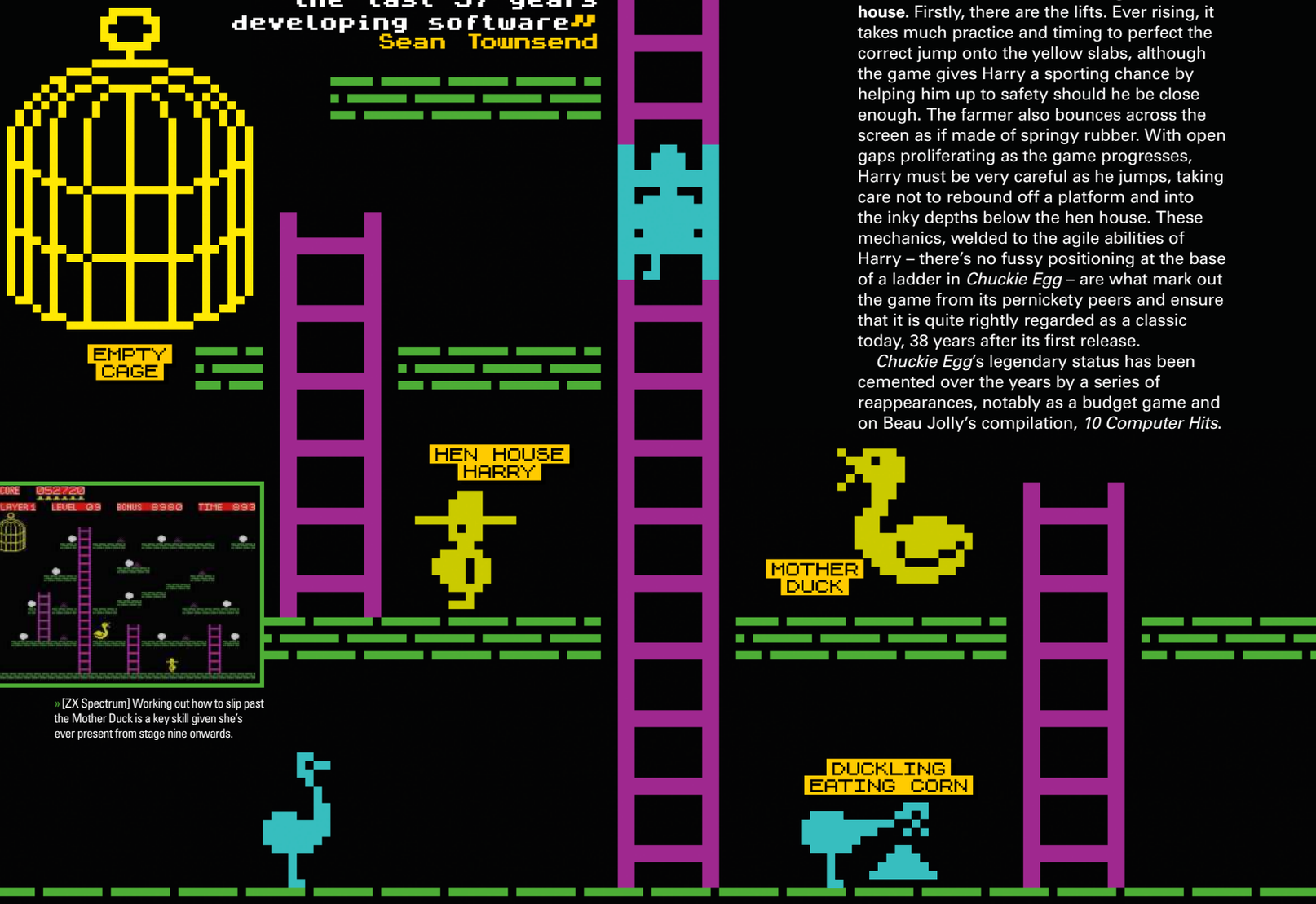
This is almost identical to its fellow 16-bit version of *Chuckie Egg* and includes the same issues with Harry The Egg's inflexible jump. There are plenty of attractive graphical flourishes, more pretty backdrops and jaunty tunes but it sadly lacks the inspired exuberance and enjoyment of the Spectrum original.



» [ZX Spectrum] The Mother Duck is out and after Harry!

» [ZX Spectrum] Fourth time around there are two more ducklings for Harry to contend with.

> "It was the start of my programming career – without Chuckie Egg I doubt I'd have spent the last 37 years developing software"
> Sean Townsend



» [ZX Spectrum] Working out how to slip past the Mother Duck is a key skill given she's ever present from stage nine onwards.

those extra lives. Furthermore, gathering up a pile of corn nets Harry 50 points while collecting an egg yields him 100 points.

Yet with *Chuckie Egg*'s difficulty rising sharply with both Mother Duck and double ducklings eventually chasing after Harry, each of those extra lives will come in very handy as the game proceeds.

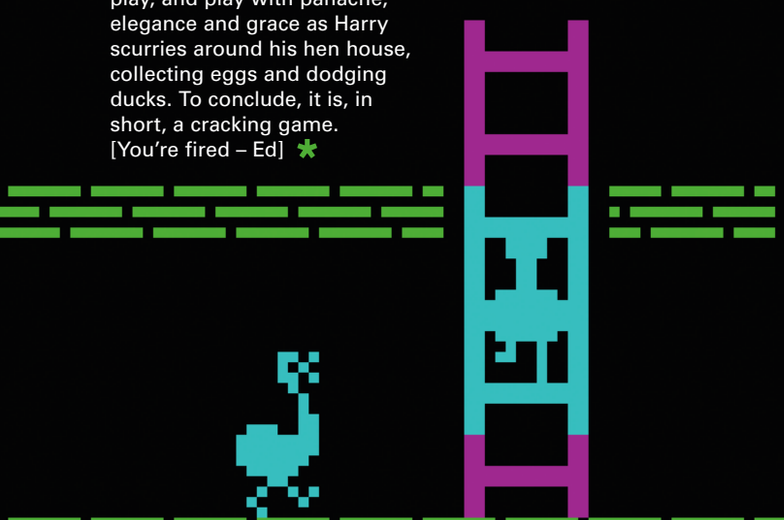
The skills required in *Chuckie Egg* go far beyond mere pixel-perfect jumping. In fact, that trait is almost non-existent with the player needing to call upon alternate abilities in order to navigate the hen house. Firstly, there are the lifts. Ever rising, it takes much practice and timing to perfect the correct jump onto the yellow slabs, although the game gives Harry a sporting chance by helping him up to safety should he be close enough. The farmer also bounces across the screen as if made of springy rubber. With open gaps proliferating as the game progresses, Harry must be very careful as he jumps, taking care not to rebound off a platform and into the inky depths below the hen house. These mechanics, welded to the agile abilities of Harry – there's no fussy positioning at the base of a ladder in *Chuckie Egg* – are what mark out the game from its pernickety peers and ensure that it is quite rightly regarded as a classic today, 38 years after its first release.

Chuckie Egg's legendary status has been cemented over the years by a series of reappearances, notably as a budget game and on Beau Jolly's compilation, *10 Computer Hits*.

» [ZX Spectrum] While it has its fans, *Chuckie Egg II* failed to match the original's charm and playability.

A consistent seller, A 'n' F published the game to a number of formats, with co-owner Doug Anderson achieving significant success with his BBC Micro port, the first to add realistic physics to Hen House Harry and the Mother Duck. Inevitably, A 'n' F's thoughts turned to a sequel, and with the game's original creator Nigel Alderton departed for Ocean Software, the publisher designed a substantially larger game in-house, with simple puzzle-solving and exploration added, making *Chuckie Egg II* more akin to *Jet Set Willy* and the *Wally Week* games than its famous forebear. While offering more variety and another decent seller, the spirit of the original is firmly absent from *Chuckie Egg II* with its lengthy boring stretches and frustrating caverns a long way from the concise and fast-paced excitement of Nigel Alderton's timeless masterpiece.

Because unlike its sequel, even today the tight controls and beautifully uncomplicated gameplay of *Chuckie Egg* make it a delight to play, and play with panache, elegance and grace as Harry scurries around his hen house, collecting eggs and dodging ducks. To conclude, it is, in short, a cracking game. [You're fired – Ed] ✱



DEVELOPER INTERVIEW

RETRO GAMER TALKS TO THE MAN BEHIND BOTH THE COMMODORE 64 AND ATARI 800 CONVERSIONS OF CHUCKIE EGG, SEAN TOWNSEND

How did you get to work on C64 and Atari 800 *Chuckie Egg*?
I worked directly for A 'n' F on not only *Chuckie Egg* but also *Chuckie Egg II* and *Gumshoe*. I hadn't heard of [*Chuckie Egg*]. My first computer was a VIC-20 followed by the C64 and Atari, so I'd never seen any games for the Spectrum. Obviously I had to play it prior to converting it and I enjoyed it. Nigel did a great job.

Speaking of Nigel, did you ever meet him?
No, never met him and never had any assistance. However, I did get some help from Mike Webb who was working at A 'n' F at the time. Mike had done some of the other conversions so it was very familiar to him.

How did you go about writing the game?
It was done in stages. The first stage would have been getting the levels drawn on the screen. The C64 version was straightforward but I wanted to take advantage of the enhanced capabilities of the Atari. This can be seen with the 3D platforms and ladders and by the way Harry moves through the platforms while on the ladders.

What was the next stage?
Getting Harry to move around the level would be next. I used a dummy screen that used bits for each element and this is how I could easily tell if he was on a ladder or platform. The tricky part of getting Harry moving was how he interacted with the platforms during a jump but this was part of the *Chuckie Egg* DNA and had to be replicated almost exactly the same as the Spectrum version. The ducklings would be next, on the Atari version they were software sprites which I do remember taking a while to get working properly. Finally, the Mother Duck would be implemented and getting her moving around with momentum was very straightforward.

The main sprite is much larger – what happened there?
Hen House Harry is a multicolour sprite and to do this on the C64 you have to double the width and this is why he looks so wide compared to the single colour Spectrum and BBC versions.

Why did you use two colours then?
I don't think I would've got away with doing a single-coloured sprite on the C64 and Atari – both versions had better graphics capabilities and as such, a certain standard was expected.

Technically, how were the games developed?
Both versions were developed on an Atari 600XL using the superb MAC65 cartridge. Once assembled, the C64 version was sent down the serial port and a small BASIC program was typed to receive it. Also, the very talented Mike Webb wrote the fast loader for the cassette version.

You included Doug Anderson's improved inertia – how else do you think you did in retrospect?
Yes, it's in both versions and I believe it's something Nigel wished he'd implemented in the Spectrum version. Overall, I think I did a pretty good job, especially as it was my first published game. Some of the comments on YouTube rave about the Atari version and others slate it. It's the same with the C64. But it was the start of my programming career – without *Chuckie Egg* I doubt I'd have spent the last 37 years developing software.

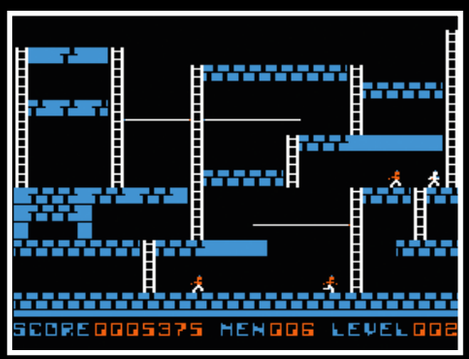
Our thanks to Sean for his time.

THE EVOLUTION OF Lode Ru

In the decades after Broderbund published Doug Smith's platformer Lode Runner countless sequels followed. Broderbund's Doug Carlston and a whole cast of developers and producers who worked on the series explain its ongoing popularity

WORDS BY RORY MILNE

» [Apple II] Before it was called *Lode Runner*, Doug Smith called his challenging Apple II platformer *Miner*.



» [Apple II] Once you complete a *Lode Runner* stage a ladder appears that you use to reach the next level.

In the early Eighties, when Broderbund Software cofounder Doug Carlston first set eyes on the game that would ultimately become *Lode Runner*, Doug Smith's project had gone through several iterations and lost its co-developer James Bratsanos. Carlston's initial instinct was to reject it, until some important alterations were made. "It was written on a VAX, so it was a very low-resolution game, and the Apple II version was just a straight translation," Carlston reflects. "I think the characters in the game were just three pixels, so you couldn't tell what was going on. So I told Doug Smith that he didn't need the mazes to be that big; he could make mazes that were smaller and more interesting. He needed to change the scale to make it work, and he also had to change the levels."

After receiving a revised version of Smith's work, Broderbund asked the developer to give his platform game 150 levels, at a time when popular platformers such as *Donkey Kong* just had four. "We didn't think of arcade games as competition, except for ideas," Carlston clarifies. "The number of levels was a function of what we had available in terms of what was ready to publish. There was no cost to putting more in, and certainly each level took very little space in terms of storage, so that wasn't an issue. We assumed that we just had to give players enough that it was a good game, and if we had more then there was no reason not to put more in."

As well as 150 levels, Smith also submitted the editor that had been used to make them, and as it wasn't seen as a threat to potential sequels it was bundled with the game. "We had a pretty good understanding of how hard it was to make a good level," Carlston reasons, "and so we figured people would find it intriguing to design their own but would find that a lot harder than playing them. The people who wrote games had the patience and were willing to sit there working out all of the details, and a lot of game players just wanted to get to the next thing. So I don't think it ever occurred to us that the level editor would be competition."

A subset of players turned out to be natural level designers, however, and so Broderbund released its most challenging stages as *Championship Lode Runner*. "We encouraged people to make their own levels and submit them to us," Carlston notes. "It was relatively low-cost, and people were pleased to see their levels in there. But they were very, very hard and I wasn't quite sure that was a good idea, because you could over-frustrate people. I used to play all of our games to make sure they were playable, and I remember thinking *Championship Lode Runner* was right on the edge."

Given that *Championship Lode Runner* was designed using *Lode Runner*'s editor, there was

DOUG CARLSTON

» Broderbund founder Doug Carlston published the original *Lode Runner* and its sequel *Championship Lode Runner*.

SCOTT TSUMURA

» Tozai Games founder Scott Tsumura has been involved with the *Lode Runner* series since the mid-Eighties.

BETH DAGGERT

» Beth Daggert coded and co-designed *Lode Runner: The Legend Returns* and *Lode Runner Online*.

SCOTT MATHEWS

» While at Presage Software, Scott Mathews produced and co-designed the isometric title *Lode Runner 2*.

BRETT BALLOW

» Brett Ballow has designer credits on *Lode Runner 3D* and XBLA *Lode Runner*.

TAKUYA BANNO

» President of Tozai Games Japan, Takuya Banno, was the producer on *Lode Runner: Legacy*.

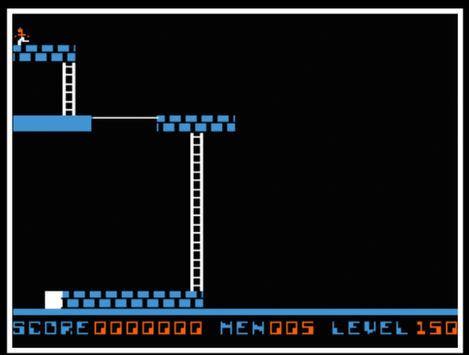
no way of adding new mechanics, which was down to a coding hiatus taken by Doug Smith. "I don't think he did any more coding for it; I don't think he wanted to do that anymore," Carlston points out. "So with *Championship Lode Runner* we had the same code base, and all we added were new levels. He may have designed some of them, I can't remember, but if he did then that would have been the extent of the development he did for us after *Lode Runner*."

But as Smith took a break from developing, he shifted to licensing *Lode Runner* titles for an eager Japanese market, as former Irem producer Scott Tsumura explains. "Japanese people like puzzles, and games where you use strategy," Scott considers. "Plus *Lode Runner* had action and was about reaction times, and those things added a very good balance. That's why it was an especially big hit in Japan. Our development team at Irem loved Apple – the Apple II and the Macintosh. Naturally we found *Lode Runner* on the Apple II, and we loved that, so we thought about how we could modify it to be an arcade game, but that was a real challenge."

The main issues with adapting *Lode Runner* for the arcades were the need for more colourful and interesting enemies, and finding more ways for players to rack up high scores. "Arcade games usually had graphics that were 256 x 256 pixels, but we had to make many types of enemies, and for that we needed a higher resolution," Tsumura recollects. "Fortunately our parent company made monitors, so it could create circuit boards that would give us a 384 x 256 pixel resolution. The different enemies we designed either chased you slowly or quickly, or had different attacks. We also added more ways to score points. So when you dug three holes, put enemies in them and ran over their heads then you'd get maybe 300 points."

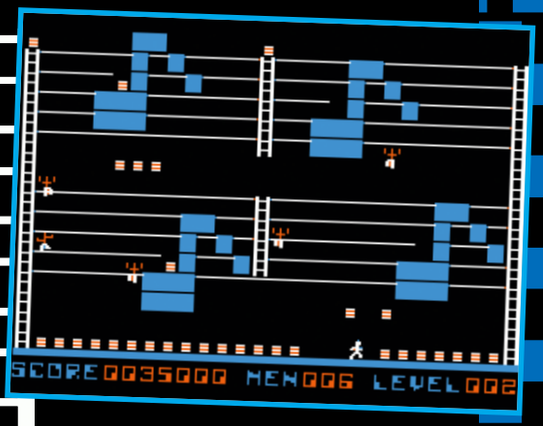
An additional challenge saw Irem having to produce its *Lode Runner* coin-op against the clock, in order to take advantage of a promising marketing opportunity. "Usually the development of arcade games took a year," Tsumura observes, "but Irem licensed the arcade *Lode Runner* just as Hudson Soft licensed the Famicom version, and we wanted to publish

> "We encouraged people to make their own levels and submit them. It was relatively low-cost, and people were pleased to see their levels in there"
>
> **DOUG CARLSTON**



» [Apple II] *Lode Runner*'s level editor is simple to use, but making interesting designs with it requires practice.

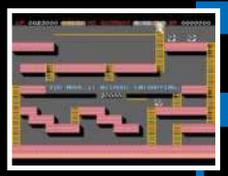
» [Apple II] From its first stage onwards, *Championship Lode Runner* is far more challenging than the original.



STAGES OF EVOLUTION:

COIN-OP CAPERS

WE LOOK AT THE JAPANESE LODE RUNNER ARCADE GAMES



LODE RUNNER TRILOGY

Irem's *Lode Runner, The Bungeling Strikes Back* and *The Golden Labyrinth* share the same codebase, but each has unique level designs. The trilogy has you tackling its stages against the clock, and rewards you for falling on enemies and walking over their heads when they're in holes.

LODE RUNNER: TEIKOKU KARANO DASSHUTSU

For its fourth *Lode Runner* coin-op, Irem added a Pair Game mode, which is similar to its trilogy but with two players clearing stages together. Interestingly, if one player dies in the co-op mode then both lose a life, and to reach some gold you have to stand on your co-player.

LODE RUNNER: THE DIG FIGHT

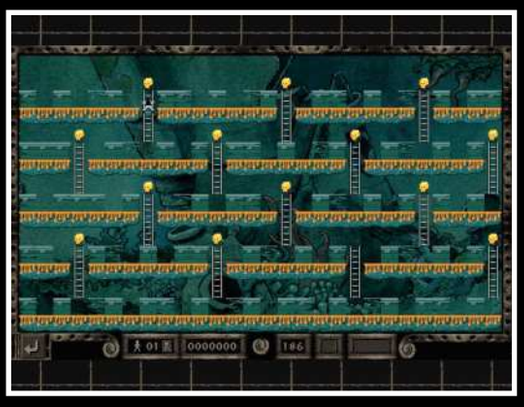
As with its predecessors, there's a time limit to finish *Dig Fight*'s levels, but Psikyo's coin-op adds power-ups that put time on the clock. It also allows you to fill the holes that you dig, and has a two-player mode where you collect eggs and send monsters after your competitor.

around the same time as Hudson, because it had much better marketing. This meant that we had to complete development in just seven months. That was *very* hard, but the arcade *Lode Runner* ultimately became a hit, and we went on to make a series of four games."

Several other Japanese developers released computer and console sequels throughout the Eighties, then in 1994 US firm Presage released *Lode Runner: The Legend Returns*, as its coder/designer Beth Daggert recalls. "It was an exciting chance to revisit *Lode Runner* with what was at the time a big step up in technology," Beth points out. "We had the luxury to introduce mechanics to create more complicated puzzles, and with that in mind we expanded the palette of options that we had as designers. We very much viewed the task as one where we walked people through the game, because these were new mechanics. So with each new world we defined puzzles where you really had to use that world's particular mechanic."

Fresh mechanics such as time-bombs, locked exits and keys, and alcoves to hide from enemies made *Legend Returns* a popular release, and so an online version with new worlds was commissioned. "The major impetus was to have a network version of *Legend Returns*, so the bulk of the development went into enabling that," Beth remembers. "But there was still time left over, so we brought back some of the things that were on the cutting-room floor. *Legend Returns* had been absolutely rushed, but with *Lode Runner Online* we actually got the time to do it right. That's just so rare, so I hold it dear just on that basis."

» [PC] *Lode Runner: The Legend Returns* adds various new ideas to the series, such as locked exits and also appeared on Mac, PlayStation and Saturn.



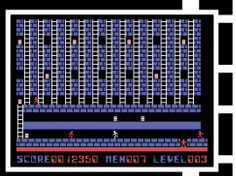
» [PC] Although it's basically an online version of *The legend Returns*, *Lode Runner Online* introduces fresh mechanics.

STAGES OF EVOLUTION:

COMPUTER CAPERS

REVISITING THE JAPANESE LODE RUNNER COMPUTER GAMES

LODE RUNNER II



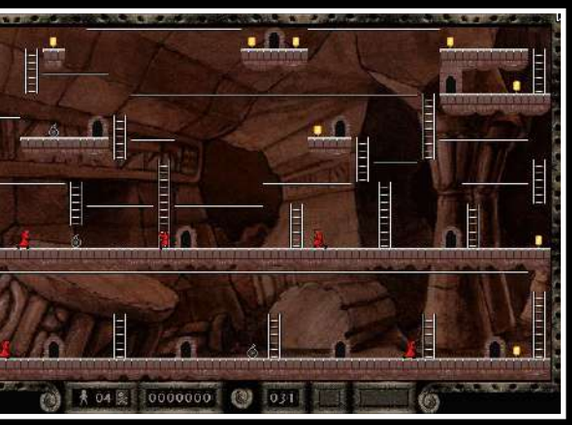
Compile's exclusive MSX follow-up retains the original's mechanics, but its 50 new levels each have a unique feel. You'll get a stage that's practically all ladders, for example, or one that has very few surfaces that can be dug into, and as a result the game keeps you on your toes.

HOZONBAN LODE RUNNER

As well as the levels from the original and its *Championship* sequel, *Hozonban Lode Runner* has 100 new stages. It also has optional colour schemes, and alternate hero and enemy sprites. Its new levels are tough, and they involve a bit of backtracking, but they're satisfying to beat.

LODE RUNNER 1

Besides its beautiful visuals, *Lode Runner 1* distinguishes itself further by adding to the gameplay established by its predecessors. Most obviously, it has various enemies with contrasting behaviours, but it also offers up new hazards and unlockable heroes with different skillsets.



» [PC] The surreal level design in *Lode Runner 2* reaches its zenith with the game's 'Wacky World' stage.

"We had to complete development in just seven months. That was very hard, but the arcade Lode Runner ultimately became a hit"

SCOTT TSUMURA

A third title using the *Legend Returns* engine followed two years later, although Presage didn't design the unforgiving Japan-only release *Lode Runner Extra*. "It would have been very easy for its developers to design puzzles that were difficult and frustrating," Beth contemplates, "and it would have taken a lot more effort to do stuff that was a challenge but not overly complicated. The 'obscuring' mechanic meant its designers could hide gold or extras behind bricks – so players had to dig around for them, and we built that in with some trepidation. If you relied on it heavily – like with *Extra* – then it was just no fun."

Presage's subsequent project *Lode Runner 2* was developed in-house, where its isometric perspective shaped its design, as former Presage producer Scott Mathews reviews. "Digging down in isometric was a whole new, fun thing, and we wanted that to take centre stage," he enthuses. "So the Bunglers followed a looping path that was a bit simpler than that found in *Legend Returns*, and that took time to perfect. Other challenges were in defining where the player characters could jump down from. At first, they could jump off every place where there was an edge, but that broke the mechanics, so we tightened it up to corner jumping only."

» [PC] The male and female heroes in *Lode Runner 2* don't have unique abilities that differentiate them.

Presage's art team found a different kind of challenge with *Lode Runner 2*'s isometrics, insomuch as they set themselves the task of producing the most surreal level designs possible. "Presage had its roots in educational content – with titles like *Carmen Sandiego*, so *Lode Runner 2* was an opportunity to break out of that and flex our artistic muscles," Mathews says thinking back. "Our art director and all the environment artists involved really embodied the spirit of 'anything goes' and that was a joy to be a part of. We were developing something that we loved to look at and play ourselves. So if we took delight in it, then we figured others would too."

The new features in *Lode Runner 2* included the option of playing as a male or female ▶

» [N64] Instead of climbing ladders in *Lode Runner 3D* you use elevators to reach high-up areas.

» [N64] The living platforms in *Lode Runner 3D* are one of its most visually impressive innovations.

"We emphasized that the new enemies would not only act strangely, but would also be closely related to the puzzles"

TAKUYA BANNO

» [Xbox 360] Like in the original game, you can blast blocks while climbing ladders in the XBLA *Lode Runner.*

» [Xbox 360] You can't escape the XBLA *Lode Runner*'s Hang-On mode stages; you just survive as long as possible.

character, although the two heroes had identical abilities rather than contrasting ones. "We had a strong culture of diversity and inclusion; certainly far beyond what I saw in other studios at that time," Mathews reflects. "It was a psychologically safe place to work, and I think the creation of the female character was a natural extension of that. As to why we didn't create different powers for each character, I think that would have stepped outside the bounds of the genre for us. We felt character distinction was more RPG-ish and not puzzle-ish."

The following year, Big Bang Software released *Lode Runner 3D* for the N64, produced by Scott Tsumura and co-designed by Brett Ballow, who felt aspects of the original game needed to be updated. "The futuristic feel of early 3D games influenced *Lode Runner 3D*'s design, and a highly automated, mechanical world was targeted," Brett comments. "So ropes and ladders were modernised into fixtures that slightly varied in function throughout the different worlds, and new block types were introduced with unique graphics and animations. Other nuances were also addressed, such as how the hero was able to safely fall from ledges many times his own height – ie rocket boosters were added to the soles of his boots!"

A decade later, Scott Tsumura's Tozai Games published a *Lode Runner* reboot for XBLA, with far less opponents than its Eighties' inspiration and Brett Ballow back on design duties. "The rendering capabilities of the Xbox 360 were so superior to the N64 that we revisited how best to upgrade the textures," Brett says of the follow-up. "Surprisingly, even after making several versions of each block type, and after several iterations of simplifying the textures, the original 16 x 28 grid levels looked very busy on high-definition TVs. So smaller levels were created, but they made distancing yourself from enemies that much more difficult, so fewer were needed to attain the frenetic pace of the original."

On the request of the XBLA platform team, various modes were designed for the service's *Lode Runner* title, including Hang On mode, where survival was key and escape was impossible. "We were tasked with making co-operative and competitive multiplayer modes, as well as a new mode that allowed players to play for just two or three minutes at a time," Brett explains.

» [PC] They may look sparse, but *Lode Runner: Legacy*'s Puzzle mode levels are a serious challenge.

"Hang On mode was our solution for a quick *Lode Runner* experience, and as it was just a bonus mode it felt OK to break some of the old *Lode Runner* rules – which turned out to be the case as it posted a very popular and constantly churning XBLA Leaderboard."

Building on the XBLA game's success, Tozai published the iOS/Android title *Lode Runner 1* and console/PC title *Lode Runner: Legacy*, which as its producer Takuya Banno notes had a Puzzle mode without enemies. "Many puzzle levels without enemies had been created by players over the years, and there had been *Lode Runner* games in the past that had modes dedicated to puzzle stages as well," Banno considers. "*Legacy*'s Puzzle mode focused on the 'puzzle' part of the 'action and puzzle' aspect of *Lode Runner*, and required you to think about how to dig holes in the right order and with the right timing so that you could not only get to the gold but also secure an escape route. It was similar to the fun that a chess problem poses."

Another of *Legacy*'s interesting game modes introduced slightly odd opponents with unique abilities, such as dogs that dug through bricks and living bombs that blew-up without warning. "*Lode Runner: Legacy* introduced new types of enemies with different algorithms, which were carefully selected from among many ideas," Banno reveals. "We emphasised that the new enemies would not only act strangely, but would also be closely related to the puzzles so that you would have to strategically use them to conquer some levels. As far as we know, these enemies were very well received by core *Lode Runner* fans, as they successfully added a new element of strategy to the *Lode Runner* series, and we felt that we were able to present new possibilities with them." Tozai plans to continue the long-running *Lode Runner* series on the Intellivision Amico, and speaking to the firm's executive producer Scott Tsumura it's very clear that the IP is in good hands going forward. "*Lode Runner* greatly strengthened my relationship with Broderbund Software and Doug Smith, and eventually we continued to work together," Tsumura says of the franchise's early days. "Then Doug Carlston, the president of Broderbund, invited me to come to the US to work, so *Lode Runner* changed my life. Now, as you know, Tozai owns the *Lode Runner* IP, so *Lode Runner* is kind of my life."

» [PC] The Extra mode stages in *Lode Runner: Legacy* feature new enemies such as block-busting dogs.

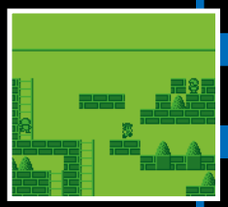
Reflecting on the late Doug Smith's original game, Broderbund founder Doug Carlston has bittersweet memories of the developer and a very high regard for *Lode Runner*. "We published something like 1,700 products, and *Lode Runner* is certainly one I remember well," Carlston says with hindsight. "But I remember the relationships with the people I worked with more, and Doug was always a bit of an enigma. I've not played *Lode Runner* for quite a long time, but of course I look back at it with fondness – and I think its gameplay definitely holds up."

STAGES OF EVOLUTION:

CONSOLE CAPERS

YOUR GUIDE TO THE JAPANESE LODE RUNNER CONSOLE GAMES

HYPER LODE RUNNER

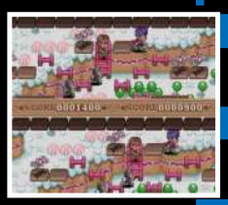


The Game Boy's tiny screen likely made scrolling levels the only option for *Hyper Lode Runner*, but it means you don't know where the gold is until you look for it. One nice feature is that some stages have keys and locked doors to subsections.

BATTLE LODE RUNNER

Battle Lode Runner's main draw are its multiplayer modes. Its three variations are: Escape – where you try to get gold from an enemy first, Survival – where you're out if you fall in a hole and Tag – where two teams of two play Survival.

LODE RUNNER TWIN: JUSTY TO LIBERTY NO DAIBOKEN



Aside from an extremely cute and colourful solo mode, *Lode Runner Twin* has co-op and head-to-head options. Across the modes, there are some pretty big scrolling stages to find your way around, but handy on-screen miniature maps depict them in their entirety.

CUBIC LODE RUNNER

Although isometric, *Cubic Lode Runner* sticks to the original's gameplay, but it adds some curious features. You get medals for collecting fruit that appears if you kill enough foes, and there are unlockable TV ads for early *Lode Runner* games.

THE HISTORY OF WONDER BOY

WHETHER IT MAKES YOU THINK OF A LITTLE LAD ON A SKATEBOARD OR A BOY WHO TURNS INTO BEASTS, THE WONDER BOY SERIES HAS LONG BEEN ASSOCIATED WITH QUALITY. WE SPEAK TO RYUICHI NISHIZAWA TO FIND OUT THE SECRET OF ITS POWER

WORDS BY NICK THORPE

» Ryuichi Nishizawa is the cofounder of Westone and creator of the *Wonder Boy* franchise.

There's no question that the Eighties were the decade that videogame heroes were truly born. The games of the Seventies had scarcely had identifiable characters at all, and the most iconic ones were easily the villainous Space Invaders. The Eighties gave us Pac-Man, Q*bert, **Frogger** and Donkey Kong – no contest. But those early greats didn't do away with legions of cars and spaceships overnight, and even by the middle of the decade, you were as likely to see anonymous sportsmen or vehicles in starring roles as any character you could identify. It was with that environment in mind that Escape – later known as Westone – began to develop a game about a little boy wearing some leaves to cover his modesty.

"I think it was the summer of 1985 when we started developing *Wonder Boy*. It was the time when *Gradius* was a big hit at the arcade. At that time, shooting games were the star of arcade games, and I chose the side-scrolling action genre for our first game as an independent developer," says Ryuichi Nishizawa, cofounder of Westone and creator of the *Wonder Boy* series. "Back then, there were not many games with strong characters, and I thought that a game with large characters jumping around the screen would stand out in the arcade. As expected, *Wonder Boy* stood out quite a bit." You played as Tom-Tom, as he was named in English releases, as he attempted to rescue his kidnapped girlfriend Tina. In gameplay terms, this meant venturing through platform obstacle courses and collecting fruit to keep your health up, while avoiding hazards like snakes, snails and fires, as well as battling bosses.

One of the more memorable features of the game was the power-ups you'd get from breaking eggs, including stone axes and a skateboard. "The initial game concept for *Wonder Boy* was designed to have the main character keep running and not be able to stop. This was because I wanted the player to enjoy the jumping action in a continuous state of tension," says Nishizawa, explaining the inspiration for the latter. "However, when I implemented this specification, I found that the game was more difficult than I had imagined and was not for everyone. So I

» [Arcade] Stone axes make light work of the various enemies, but you don't have time to stand and aim.

» [Arcade] We'd like to extend our thanks to whoever left their skateboard on Westone's roof.

» [Arcade] If you find a fairy, you'll gain temporary invincibility that lets you bash through baddies.

WHAT'S IN A NAME?

WHEN IS A WONDER BOY GAME NOT A WONDER BOY GAME?

The history of the *Wonder Boy* series is rather convoluted, and it's all for one simple reason – Westone owned the game designs and code, but Sega owns the *Wonder Boy* trademark. That meant that anyone could license the games from Westone for conversions, they just couldn't be called *Wonder Boy*. The company that most frequently did so was Hudson Soft, which first licensed the original game for the NES and MSX and called it *Adventure Island*. That's worth a whole boxout on its own though, so we'll cover that elsewhere.

Hudson Soft went on to license four more *Wonder Boy* games, all for the PC Engine and all treated as completely unrelated properties. *Wonder Boy In Monster Land* became *Bikkuriman World*, featuring characters that were introduced on stickers in Bikkuriman chocolate wafer packets. *Wonder Boy III: Monster Lair* came over fully intact, but lost the *Wonder Boy* branding in North America. *Wonder Boy III: The Dragon's Trap* became *Dragon's Curse* in the US and, very confusingly, *Adventure Island* in Japan. *Wonder Boy In Monster World* was rebranded as *The Dynastic Hero*.

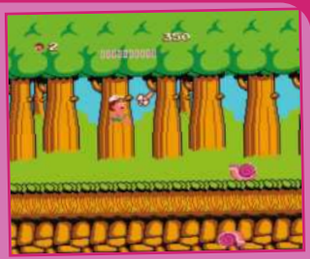
Elsewhere, Jaleco published *Wonder Boy In Monster Land* for the Famicom as *Saiyuuki World*, with a total thematic alteration. That got a sequel of its own, published internationally as *Whomp'em*, which wasn't developed by Westone. In Brazil, Tectoy rebranded the Master System versions of *Wonder Boy In Monster Land* and *Wonder Boy III: The Dragon's Trap* as *Monica's Gang* games, with new graphics based on the popular comics.

And just to really make sure that everyone completely understands the situation with regards to the popular series, the recently released *Monster Boy And The Cursed Kingdom is* also a *Wonder Boy* game – there's a Sega copyright on the title screen and it displays the *Wonder Boy* 30th Anniversary logo on the box. But it's called *Monster Boy*, not *Wonder Boy*. Confused yet?

» [Arcade] Grabbing fruit can be a dangerous endeavour when there are deadly icicles overhead.

A NEW ADVENTURE

WHAT'S THE DEAL WITH THE ADVENTURE ISLAND SERIES?



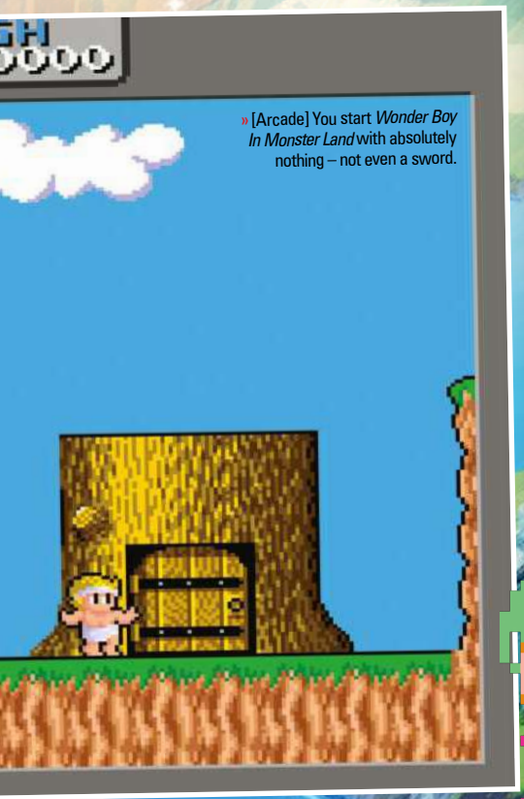
As we mentioned in the What's In A Name? boxout, Hudson Soft licensed the *Wonder Boy* game design and released *Adventure Island* for the NES and MSX. Despite the fact that the company didn't need to change the character, it decided to put its famed personality Takahashi Meijin front and centre. Given his notable ability to fire 16 shots per second in shoot-'em-ups, the choice to put him in a platform game was a surprising one, but it didn't matter to international players who were introduced to the character as Master Higgins.

Adventure Island did quite well for Hudson, so a NES sequel arrived in 1990, developing on the original with new dinosaur mounts and the ability to backtrack. A version of this game came to the Game Boy, as did a version of *Adventure Island 3*, which was released in 1992. The same year also saw the release of *Super Adventure Island* for the SNES and *New Adventure Island* for the PC Engine, both of which stuck closely to the original formula too. The final major entries in the series appeared in 1994, the Japanese Famicom exclusive *Adventure Island IV* and the SNES game *Super Adventure Island II*. These games were both departures from the original *Wonder Boy* formula, with their focus on exploration bringing them closer to the later *Wonder Boy* games instead.

Later on, a PS2 remake of the first game appeared in 2003, and the four NES games appeared in a Game Boy Advance compilation in 2006. The series was last seen on consoles in 2009, when *Adventure Island: The Beginning* was released as a WiiWare game. Konami currently owns the rights to the *Adventure Island* series thanks to its acquisition of Hudson Soft in 2012, and it included *New Adventure Island* as part of the PC Engine Mini's line-up in 2012.

» [Arcade] Boss encounters are much more frequent in *Monster Land* than the original game.

» [Arcade] Those snazzy purple boots highlight Nishizawa's desire to visually represent equipment upgrades.



» [Arcade] You start *Wonder Boy In Monster Land* with absolutely nothing – not even a sword.

▶ changed the specifications to allow players to run and stop at their own choice. This made it an action game for everyone, but I also wanted to keep that tension of not being able to stop, so I wondered if there was any way we could still keep this feature. As a result, I came up with the idea of riding a skateboard with a power-up." It's a decision that makes a lot of sense, but one detail makes it rather odd. "The reason why I suddenly turned my attention to skateboards is because I happened to find one on the rooftop of the building where the development office was located. I don't know who left it there, but without this encounter, Boy might never have ridden a skateboard."

Wonder Boy arrived in arcades in early 1986, using Sega's 8-bit System 1 board. The compelling game design and cute look delivered the success both Escape and Sega would have hoped for – when Japanese coin-op magazine *Game Machine* listed the best-performing PCBs of the second half of 1986, *Wonder Boy* was in tenth place. Home conversions soon followed, but Westone wasn't involved with them. "Since we were concentrating on developing arcade games, we had no contact with the people in charge of developing console ports. The people around us who supported our business took care of that. At that time, our interest was in the latest arcade games," explains Nishizawa. "The hardware specifications for console games at that time were low, so it was difficult to port arcade games as they were. I am sure the developers who were in charge of the porting must have had a difficult time."

Indeed, the first home release for Sega's SG-1000 was heavily cut down, omitting iconic features such as the skateboard. The Master System version was much more faithful and actually added extra stages, and formed the basis of the later Game Gear version. Then there is the whole *Adventure Island* saga, which is covered in the A New Adventure boxout. Even Nishizawa didn't know about all of the versions. "Although I was aware of the Master System and Famicom versions whenever they were released in Japan, it was more than ten years later that I learned of the existence of PC versions such as for Commodore

» [Arcade] Shops and taverns appear in the series for the first time in *Wonder Boy In Monster Land*.

» [Arcade] It's very easy to recognise *Monster Lair* as a *Wonder Boy* game, visually speaking.

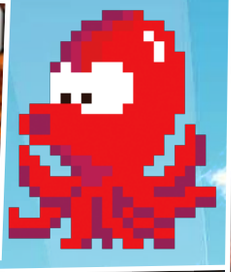
"THE INITIAL GAME CONCEPT FOR WONDER BOY WAS DESIGNED TO HAVE THE MAIN CHARACTER KEEP RUNNING AND NOT BE ABLE TO STOP"
RYUICHI NISHIZAWA

64 and ZX Spectrum. We had no information from overseas," he says. "It was only recently that I learned that *Wonder Boy* has fans in North America and Europe, as well as in South America and the Middle East."

Rather than providing more of the same, Westone set to work on a sequel which made some fairly radical gameplay adjustments. "We wanted to create an RPG in an arcade game. To introduce a complex game system that requires players to continue playing, without regard to the rules of arcade games – which usually must be completed in a short period of time – we needed to make it easy for new players to get into it," says Nishizawa. "We therefore chose the same platform action game format as *Wonder Boy* and also added the name *Wonder Boy* in the game title. We thought that even people who had never played an RPG before would try to play it, if they had known and played *Wonder Boy* before. This attempt was a success, and contributed to the establishment of the action RPG game genre." This time your goal was to defeat the Meka Dragon that was terrorising the land. Skateboards and stone axes were out, though – instead you found yourself buying hints at taverns, as well as weapons and armour in shops, all with gold gained from defeating enemies along the way.

"We wanted to create a game where you could change your equipment and have it reflected in the visuals," explains Nishizawa, regarding the change of approach. "Our desire to create RPGs for arcade games was greatly influenced by the classic RPG *Wizardry*, which we were playing on our PCs at the time. At the time, *Wizardry* had a simple, text-based screen structure, ▶

» [Arcade] Levels in *Monster Lair* end with a proper flying shoot-'em-up section with a boss.



» [Arcade] Weapon power-ups are basically the same in both platform and shoot-'em-up sections of *Monster Lair.*

▶ and dungeons were depicted using wireframes. The character you controlled did not appear on the screen, and even if you changed equipment such as swords and armour, you could not see the changes on the screen." The Westone team felt that seeing the fruits of your labour would make the game more engrossing. "We wanted to show the changes in equipment that *Wizardry* didn't show on the screen. We wanted to show the development of the main character in a way that was easy to understand. I think this 'equipment change system' was an excellent idea to directly demonstrate the fun of RPGs to the players."

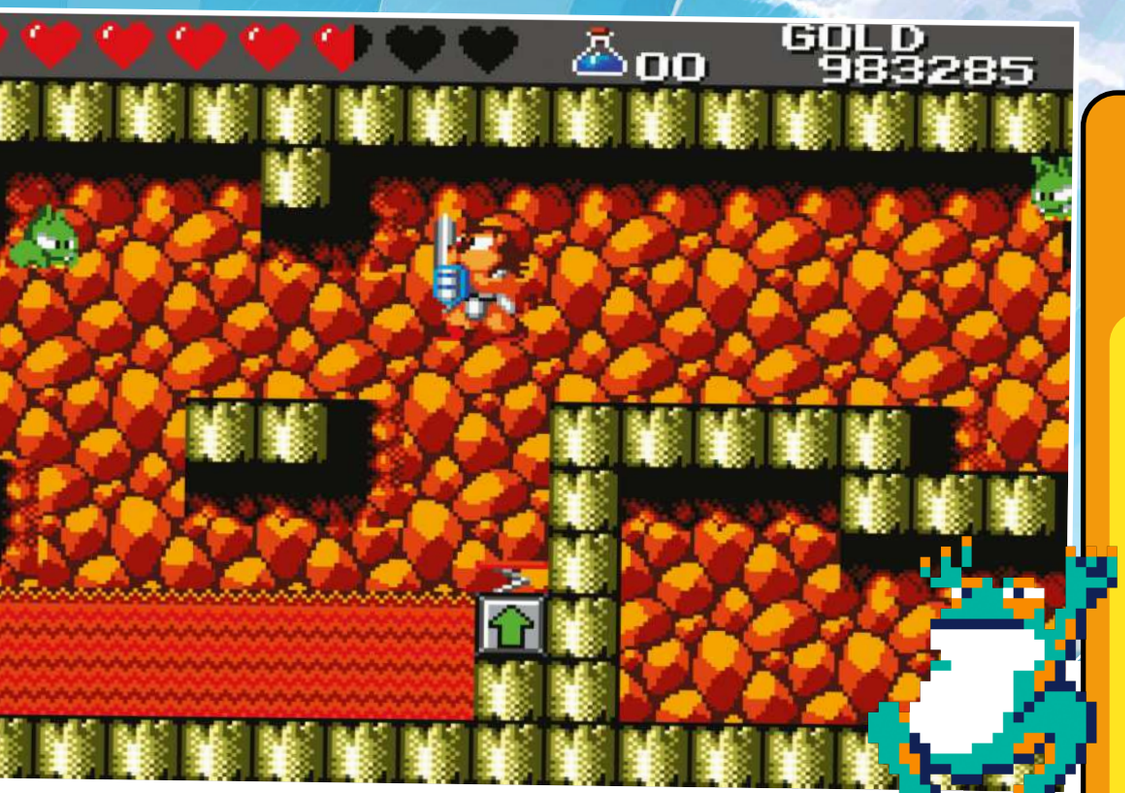
"MONSTER LAIR WAS INTENDED FROM THE BEGINNING TO BE DEVELOPED AS AN EVOLUTION OF WONDER BOY"
RYUICHI NISHIZAWA

***Wonder Boy In Monster Land* was popular in arcades upon its release in 1987, earning 25th place in *Game Machine*'s ranking of top-performing PCBs for the second half of the year.** The game was again converted to a variety of formats including the Master System and various home computers, with some using the name *Super Wonder Boy.* Future games would pick up the elements introduced here rather than the gameplay of the original game, and we had long wondered why this was the case. "This is due to the different nature of arcade and console games," Nishizawa tells us. "Consoles allow for time-consuming adventures that involve solving puzzles, whereas arcades do not. As the primary market for games shifted from arcades with their simple gameplay to consoles with their more complex gameplay, *Monster Land* was more open to expansion and evolution."

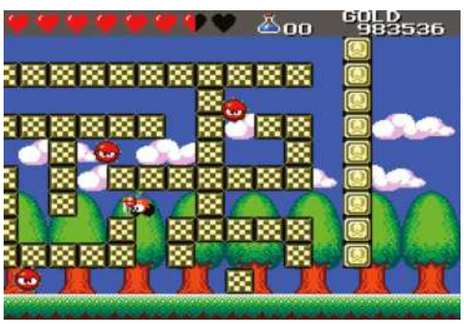
With the next game once again being an arcade game, Westone reverted to a slightly more simple approach. *Wonder Boy III: Monster Lair* saw Leo and Papillo – or Priscilla, depending on your version – trying to fend off a monster invasion. The game design changed once again, with a new blend of auto-scrolling platforming and shoot-'em-up action tried for the first time. "*Monster Lair* was intended from the beginning to be developed as an evolution of *Wonder Boy*," says Nishizawa. "Since the hardware was changed to System 16 and evolved from 8-bit to 16-bit, it is now possible to display more colours and larger characters. I wanted to create a platform action game that took full advantage of these features. Then I combined that with the world view and story of *Monster Land*."

Although it was intended to develop on the first game's concepts, it was a seemingly innocuous new feature that would change the game's ultimate direction. "At the time, two-player games were becoming common in the arcade game market in order to increase income. Therefore, we decided to create a two-player platform action game. But the game design process was extremely difficult," Nishizawa recalls. "The player two would get in the way and prevent you from playing the game as you would want to. We came to the conclusion that it was impossible to focus on the action of jumping at the right time, and decided to emphasise the shooting element instead. Such twists and turns were part of the development process." Unfortunately, the new approach didn't do *Wonder Boy III: Monster Lair* many favours. It was released into Japanese arcades in late 1988 and didn't last nearly as long as its predecessors in *Game Machine*'s top games rankings. The highly accurate PC Engine conversion was released in

» [Game Gear] *Wonder Boy: The Dragon's Trap* is no lazy Game Gear port, it was redesigned for the handheld's smaller screen.



» [Master System] In places, *Wonder Boy III: The Dragon's Trap* could pass for an early Mega Drive game.



» [Master System] As well as fitting through small spaces, Mouse Man can walk on walls.

» [Master System] Piranha Man's ability to swim is vital for accessing certain parts of the ocean.

1989, and was one of the earliest games to use the CD-ROM format. A Mega Drive version was released to average reviews in Japan in 1990, and it didn't fare much better upon its PAL release in 1991.

As Nishizawa notes, performing three major overhauls in three games isn't the most efficient way to go about development. "In general, changing the game genre will increase development time and development costs because there will be less opportunity to reuse existing assets from the past and knowledge learned from each staff member's experience. If you want to maximise the use of past development assets, it is better not to change the genre," he explains. "Unlike today, game development at that time took it for granted to create something new and unprecedented, so there was no idea such as reusing assets from the past. It would be more accurate to say that we always started from scratch and knew of no other development methods." Still, after this point in the series, the changes between games would become less radical.

Monster Lair is typically overshadowed by *Wonder Boy III: The Dragon's Trap*, which was developed as a successor to *Wonder Boy In Monster Land*. According to Nishizawa, the key consideration prior to this game had been, "How do you get people to insert 100-yen coins in an arcade game?" Designing the game for the Master System allowed the team to approach development differently. "Players have already purchased the package and are ready to play. In other words, even if the game is a little complicated, players are likely to play it," says Nishizawa. "This is what I felt was the biggest difference when planning a console game. In an arcade game, you should never be in a situation where you don't know how to proceed, ▶

COMIC CAPERS

HOW WONDER BOY'S ADVENTURES WERE BROUGHT TO THE PRINTED PAGE

When *Sonic The Comic* launched in 1993, it was intended to be far more than just a showcase for Sega's spiky mascot. To provide a dose of variety and promote the wider world of Sega games, strips were introduced for a variety of series, with the first batch including the likes of *Shinobi, Golden Axe* and of course *Wonder Boy.* These were completely unknown to the Westone team back in Japan. "I didn't see it back then when the comic strip was released, but I learned about those comics more than ten years later. It was a great honour and I wish I had known about it earlier," says Nishizawa.

The *Wonder Boy* strip is based on *Wonder Boy In Monster World* and had two stories, the first being *Wonder Boy In Demon World*, which ran from issue two to issue nine. The story starts with our hero Shion being distracted by a demon attack, while his village is torched and its inhabitants kidnapped. On his quest to rescue them, he finds himself afflicted with a curse by the demonic ruler Grimomen, which is slowly turning him into a demon. He eventually ventures into Demon World to face off with Grimomen and rescue his people.

Wonder Boy In Ghost World ran from issue 22 to issue 27, and sees Shion travelling to the Skyrock Mountains. There he finds that ghostly dinosaurs have been attacking the locals, with the cosmologist Lukout being one of the few to have stayed to fight. They end up heading to Ghost World, where the Dinosaur King reveals his plot to regain control of the overworld. He's eventually defeated and a third strip named *Wonder Boy In Witchery World* is teased, but it never appears – unless you count the gag strip in Sonic The Comic Online.

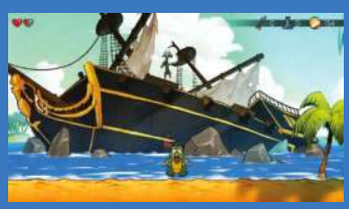
» [Mega Drive] There's no Piranha Man here, but you still need an upgrade in order to swim.

WONDERS NEVER CEASE

THE REMAKES THAT HAVE KEPT PAST WONDER BOY ADVENTURES FRESH

WONDER BOY RETURNS
2016

Korean developer CFK was behind this update of the original game, which featured a new art style and new stage designs. "I supervised the design and the additional elements of the story," says Nishizawa. We liked the new bosses but not the art style, and gave it 62% in issue 164.



WONDER BOY: THE DRAGON'S TRAP
2017

Lizardcube's take on *Wonder Boy III* has new hand-drawn graphics as well as the original Master System sprites. Nishizawa supervised and provided gameplay feedback, but admits "I had nothing to say about it because it was very well finished." We gave it 90% in issue 168.

WONDER BOY RETURNS: REMIX
2019

CFK had a second crack at the whip, with Nishizawa noting "a remix version was developed with a new level design, which I reviewed and found to be a great improvement in quality". It is actually far closer to the original game than the first release of *Wonder Boy Returns*.

WONDER BOY: ASHA IN MONSTER WORLD
2021

G Choice and ININ Games published this direct remake of *Monster World IV*. Nishizawa spent 20 months at the helm as designer and director, working on his first-ever game with 3D visuals. We gave it 70% in issue 222, saying that it "does justice to the Mega Drive original".

» [Mega Drive] Magic spells were a featured part of *Monster World*, upgraded from being single-use items before.

▶ but in a console game, not only is this allowed, but the uncertainty can motivate the player to play. I wanted to create a game that would allow players to unravel many of those riddles."

The Dragon's Trap pulls the *Rocky II* trick of starting at the end of the previous instalment, where our hero fights the Meka Dragon. He's transformed into the fire-breathing Lizard Man upon defeating his foe, leaving him to regain his humanity by defeating a variety of other dragons – each of which will transform him into a different kind of animal, such as a bird, a lion or a mouse. Rather than taking place over a series of linear stages punctuated by boss fights, *The Dragon's Trap* is an early example of the Metroidvania subgenre, with an enormous map that can only be fully explored using the abilities of each animal form you can gain. The game was released in North America and Europe in 1989 and quickly became known as one of the greatest Master System games, earning 86% from *CVG*, 92% from *S: The Sega Magazine* and 95% from *Mean Machines*. Despite being coded with the intention of a Japanese release, the Master System was already dead in its home market before the game was finished, leaving its FM soundtrack largely unheard.

Wonder Boy III: The Dragon's Trap did see a Japanese release though, as the Game Gear version arrived as *Monster World II* in 1992. "In the past, I had left the porting of our own games to other companies, but at this time I felt that we could not do that," remembers Nishizawa. "The Game Gear version needed to be redesigned, so I decided to remake it ourselves." This redesign was necessitated by the switch to a smaller, lower-resolution handheld display. "The impact of smaller screens on game design is greater than you might imagine," Nishizawa tells us. "By making the display area smaller, there was a risk that I would lose the overview of 'what do I do to get that treasure chest?' For example, the smaller screen size would have made it impossible to see the other side of a wall. The smaller screen size meant that the treasure chests that were supposed to be visible on the other side of the wall would no longer be visible, which meant that the carefully designed level design would be lost. I was also able to adjust the difficulty level, so I think I was able to achieve a very high level of perfection."

» [Mega Drive] *Wonder Boy In Monster World* sought to tie elements of past *Wonder Boy* games together.

» [Mega Drive] You get a nice little cut-away effect when you enter buildings in *Monster World*.

"THE GAME GEAR VERSION NEEDED TO BE REDESIGNED, SO I DECIDED TO REMAKE IT OURSELVES"
RYUICHI NISHIZAWA

Nishizawa took a step back from design for *Wonder Boy In Monster World* – or *Wonder Boy V: Monster World III*, to use its confusing Japanese name. "After completing the Game Gear version of *Wonder Boy: The Dragon's Trap*, I guess I had a hard time developing the fantastic arcade game *Clockwork Aquario*, which was released in November 2021. I had to make *Aquario* over and over again," he laughs. "From the beginning, it was decided that *Monster World III* would be a compilation of past titles," he continues. "Since this was our first time developing a game for the Mega Drive, there was a lot of technical trial and error. I then applied a variety of visual effects that would give the game a greater emotional impact and excitement than ever before. I think I also focused on creating our own development tools, such as tools for graphic design, with an eye toward the future. This allowed us to start the development of *Monster World IV* smoothly.

"I thought that it was getting closer to an RPG. The game genre is action RPG, so the game system is a fusion of action and RPG, but the RPG elements are stronger than in the previous titles," says Nishizawa when asked what he thought of *Wonder Boy In Monster World*. "There are more characters and dungeons, and I thought it was a game that could be played smoothly and with plenty of volume." Building on the formula developed in the previous *Monster World* games, Westone increased the ▶

complexity of the dungeons and added plenty of additional secrets, with many opportunities to converse with non-player characters to learn about those secrets. Protagonist Shion could permanently learn magic spells instead of grabbing single-use items, and helper characters accompanied you though the dungeons.

UK publications liked *Wonder Boy In Monster Land* when it arrived in 1992 – it scored 84% in *Sega Force*, 88% in *Mean Machines* and 90% in *MegaTech*, with all praising the stronger RPG element. US critics were less impressed, with mixed reviews in *Electronic Gaming Monthly* and *Game Informer* both expressing the view that it was better suited to younger players. The game was also released on the Master System in Europe, and received 57% from *Sega Power*, 75% from *Sega Force* and 88% from Mean Machines Sega, with reviewers applauding the graphics and criticising the music and low difficulty level.

» [Mega Drive] Fighting enemies in *Monster World IV* is still part of the game, but the platforming is the highlight here.

» [Mega Drive] Pepelogoo accompanies you for much of your adventure, and grows as you make progress.

"SINCE MONSTER WORLD III WAS BASED ON THE IDEA OF A COMPILATION OF PAST TITLES, MONSTER WORLD IV NEEDED TO HAVE A NEW TWIST"
RYUICHI NISHIZAWA

The next game in the series ditched the *Wonder Boy* branding, and the boy with it. "Since *Monster World III* was based on the idea of a compilation of past titles, *Monster World IV* needed to have a new twist," says Nishizawa. The game starred Asha, a young girl who sets out to rescue elemental spirits after hearing whispers in the wind. This quest would take place in a world rather unlike any previous *Wonder Boy* game. "When I plan a new game, I usually start with visual images. So, what should the world design look like? What kind of scenery should be displayed in the background of the game screen? As a result, I decided to use an Arabic style," the developer tells us. "Instead of a vast land, the adventure is set in a small country surrounded by desert, creating a unique environment not found in any other game. I believe that our attempt was a success."

» [Mega Drive] *Monster World IV* is graphically excellent, carrying off its unique style effortlessly.

M*onster World IV* cut back the RPG elements in favour of platforming, and returned to more linear level structures. "*Monster World III* had more RPG elements, so this may be a reaction to that. I also like action games myself, so I think that's why I made the game more action-packed," says Nishizawa. "The main focus of *Monster World IV* was the connection with Pepelogoo. I wanted the player as Asha to develop a friendship with Pepelogoo through completing the stages together, instead of focusing on the story," he continues. "That's why I placed more emphasis on the platform gameplay than ever before." Indeed, Asha's blue buddy literally grows up as you progress through the game, and he is key to the platforming. He can carry Asha across gaps by floating or provide a launching point for double jumps, and can even serve as a means to ride gushing lava.

Monster World IV was released for the Mega Drive in April 1994, and was moderately well received, earning 7.25/10 from the Japanese magazine *Beep! Mega Drive*. It was the first and only game in the series to be released exclusively in Japan. "It took co-operation with Sega to translate the scenario into English and implement it," Nishizawa explains. "*Monster World IV* was released at the end of the Mega Drive's lifespan, and the next generation Saturn was already on the way. Sega was busy with preparations for the Saturn, and I think it was difficult for them to devote human resources to the overseas sales of *Monster World IV*." An official translation was finally created in 2012 with the help of Sega and M2, and was first released on the Wii Virtual Console service. It has since been made available as part of various digital and physical products, including the Mega Drive Mini and *Wonder Boy Collection*.

For a long time that appeared to be it for *Wonder Boy*, but 2014 marked the start of a surprising comeback for the series. "I became a supporter of Game Atelier, a French game studio, when they raised funds for a new title through crowd funding," says Nishizawa. This was to

BOSS RUSH

THE BEST OF THE BIG BADDIES FROM THE WONDER BOY SERIES

KING

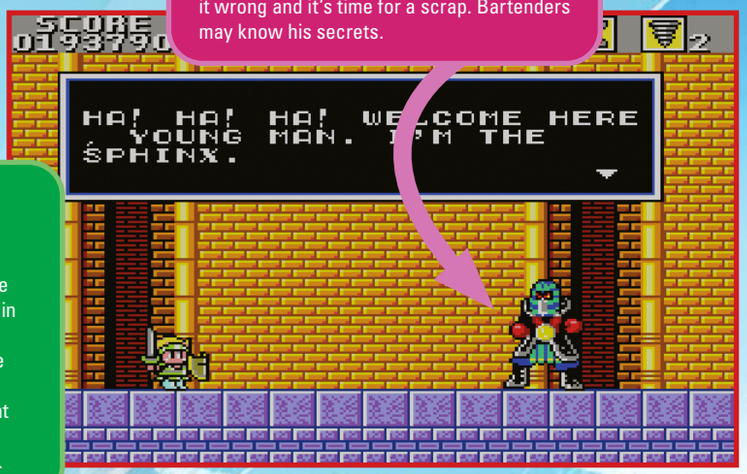
WONDER BOY

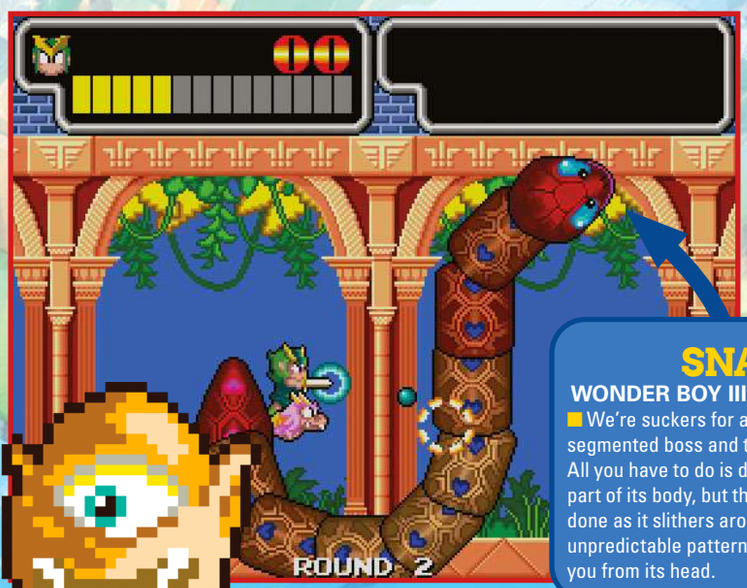
They say you never forget your first, and the evil King is the biggest enemy you'll encounter in the original game. He advances slowly towards you and lobs the occasional fireball, but the big surprise comes when you defeat him – he quite literally loses his head, before gaining a new one.

SPHINX

WONDER BOY IN MONSTER LAND

The great thing about this boss fight is that it never has to happen. Upon arriving at the boss room, the Sphinx will ask you a question about itself. Get it right and you walk free, get it wrong and it's time for a scrap. Bartenders may know his secrets.





SNAKE

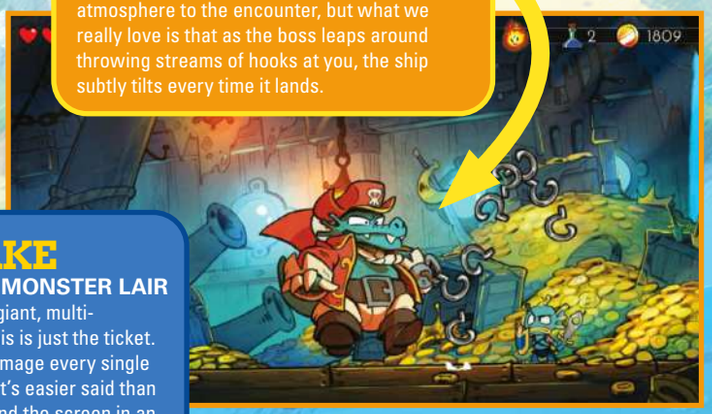
WONDER BOY III: MONSTER LAIR

We're suckers for a giant, multi-segmented boss and this is just the ticket. All you have to do is damage every single part of its body, but that's easier said than done as it slithers around the screen in an unpredictable pattern, firing beach balls at you from its head.

PIRATE DRAGON

WONDER BOY: THE DRAGON'S TRAP

This fight does so much to show off Lizardcube's fantastic graphical upgrade. The background really adds a great sense of atmosphere to the encounter, but what we really love is that as the boss leaps around throwing streams of hooks at you, the ship subtly tilts every time it lands.



SQUID

MONSTER BOY AND THE CURSED KINGDOM

Turning this towering terror into sashimi is a tall order, as it has multiple methods of attack. It can spit out annoying little slime enemies, or in a funny moment, chew you up and spit you into the screen. When it tries to strike with the tentacles, hit back.

RELIVING THE LEGEND

WONDER BOY COLLECTION IS THE LATEST WAY TO EXPERIENCE THE SERIES

If you're thirsting for adventure after revisiting *Wonder Boy*'s history, a pair of new collections are available that should deliver what you're looking for. *Wonder Boy Collection* is available digitally and physically via ININ Games, and contains *Wonder Boy, Wonder Boy In Monster Land, Wonder Boy In Monster World* and *Monster World IV.* The *Wonder Boy Anniversary Collection* adds *Wonder Boy III: Monster Lair* and *Wonder Boy III: The Dragon's Trap*, as well as Sega console conversions of the various games in the package. This definitive package was only available via Strictly Limited Games, so it may be trickier to acquire.

"This product is an answer to the growing demand of *Wonder Boy* series fans who want to play the series' titles on the latest gaming platforms in a casual way. Of course, I hope that people who have never played the series before will also be able to enjoy it," says Nishizawa. "Especially since *Monster Lair* was not available on PS4 or Switch, I'm sure there are many fans who have been looking forward to this. I recently learned that there is a surprisingly big number of fans who love that vivid screen and the groovy music," he adds with a laugh. "The game is quite a bargain, so please get it and play it. I think the package illustration drawn by Mrs Ohzora alone is worth a lot."

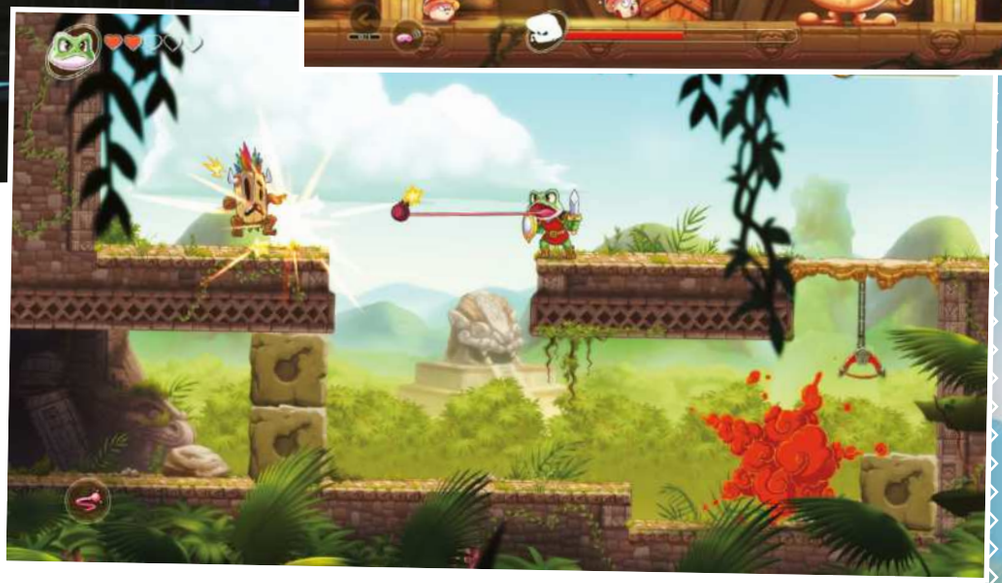
Though Nishizawa has naturally not been involved in game design as the games already exist, he has worked on the package. "I spent a lot of time working on the art book, soundtrack, cards and games included in the collector's edition," he explains. "This edition will also include a set of collector's coins, for which I designed icons featuring the main character Boy and Shion. I put a lot of effort into it."

» [Switch] We love the classic eye patch-sporting pig, but the dragon is our favourite new transformation.

▶ be a platform adventure by the name of *Flying Hamster II: Knight Of The Golden Seed*. "This new title was a tribute to the *Monster World* series, so I suggested to them that they could include characters from the original *Monster World* series in the game." The game became *Monster Boy And The Wizard Of Booze*, before eventually settling on its final title of *Monster Boy And The Cursed Kingdom*. "After five years of work, *Monster Boy* was completed. At one point I was worried that they might not be able to complete the project, but they pulled it off. They showed a wonderful passion for this game," says Nishizawa. Indeed, two other *Wonder Boy* remake projects were released before that, both in 2017 – but you'll read more on those in the Wonders Never Cease boxout.

Monster Boy follows the young boy Jin, who has to find a way to restore everyone's humanity after his uncle magically turns them into animals. *Wonder Boy III: The Dragon's Trap* provides the starting point for the game design with its Metroidvania structure and animal transformations, but the game expands on that template considerably. Only the lion returns, with the rest of the animal

"AT ONE POINT I WAS WORRIED THAT THEY MIGHT NOT BE ABLE TO COMPLETE THE PROJECT, BUT THEY PULLED IT OFF"
RYUICHI NISHIZAWA



» [Switch] Tributes to past *Wonder Boy* games are a big part of *Monster Boy And The Cursed Kingdom*.

» [Switch] The new animal transformations in *Monster Boy* are great – who doesn't love a bomb-munching frog?

» [Switch] Notice the sight cones in front of the Penguin Knights – yes, this is a stealth section.

forms all being brand-new. These include a venom-spitting snake, a frog that can use its tongue as a grappling hook, and a flying dragon. Best of all, the pig resembles his *Dragon's Trap* counterpart, eye patch and all. You can now instantly switch between animal forms and this is more than just a convenience, as plenty of the level design requires doing so deftly. It also works in equipment with unique properties like allowing you to walk on fire, and even manages to skillfully blend in sections that pick up elements of other genres such as stealth.

It's an audiovisual delight to boot – the 2D graphics are truly excellent and the audio includes plenty of classic themes from the series' past. Amazingly, Game Atelier managed to pull this impressive feat off alone. "They were skilled enough professionals. I never made any suggestions about the game design," says Nishizawa, explaining his involvement in the new game. "I mainly supervised the background and character design. They also wanted to have the opening animation movie made by a Japanese animation studio, so I introduced them to a Japanese animation production company." The game was released on Switch, PS4, Xbox One and PC in 2018, and received numerous positive reviews including 95% from **Retro Gamer**, 9/10 from *Nintendo Life*, 8/10 from GameSpot and 8/10 from *Official Xbox Magazine UK*.

Since then, we've had more compilations and remakes, including *Wonder Boy Returns: Remix*, *Wonder Boy: Asha In Monster World* and now *Wonder Boy Collection*. It's fair to say that after many years in the wilderness, the *Wonder Boy* series has been firmly re-established in the gaming world. Why does Nishizawa think that the series was able to make that kind of a comeback? "Sometimes I hear from overseas fans about their memories of the *Wonder Boy* series, and strangely enough, in many cases, they encountered the *Wonder Boy* series when they were eight years old. I believe that 'eight years old' is the key word here," he tells us. "I imagine that the games they played as children became their 'original experiences' and that those games are etched into their memories, and even as adults, the memories of those days come back to them vividly."

The future could well be bright too. *Clockwork Aquario* has finally been released and *Wonder Boy Collection* is out now, so Nishizawa has the freedom to pursue a new *Wonder Boy* game if he likes. Thanks to his experience of working with the Game Atelier team, he just might do it too. "They have awakened a 'fever' for game development in me. But now I am more interested in developing a *Monster World* sequel than a *Monster Boy* sequel," he reveals. We can only hope that comes to pass – if a new *Wonder Boy* is on the table, we certainly won't hesitate to pick up the sword and shield one more time. ✱

THE HISTORY OF AFTER BURNER

IT WAS RELEASED 35 YEARS AGO, YET AFTER BURNER STILL IMPRESSES TO THIS DAY THANKS TO SEGA'S GROUNDBREAKING TECH AND YU SUZUKI'S GOLDEN TOUCH. JOIN US AS WE RIDE INTO THE DANGER ZONE TO CHART THE HISTORY OF THIS AIRBORNE OPUS

Words By Martyn 'Mayday' Carroll

Sega's Yu Suzuki often cites English-language movies as inspirations for his arcade hits. *Space Harrier*, we've learnt, was partly influenced by *The NeverEnding Story*, while *Out Run* was based on *The Cannonball Run*, of all things. His main inspiration for *After Burner* was far more obvious. *Top Gun* was released in 1986 and quickly became a worldwide hit and cultural phenomenon, so when Suzuki was deciding what to do next after the release of *Out Run*, he opted for an arcade game involving supersonic F-14 fighter jets. He felt the need for speed basically.

Yet this wasn't the first time he'd mulled over the concept. As revealed in **Retro Gamer** 145, when he joined the *Space Harrier* team, the game was simply known as *Harrier* and the player controlled a Harrier Jump Jet. Suzuki felt that to depict the jet from multiple angles would take up too much time, and crucially eat up too much memory, so he decided to use a human character in a fantasy setting instead. Although Sega's Super Scaler technology was ahead of its time, Suzuki constantly demanded more performance to realise his concepts. *After Burner* would be the first title to utilise Sega's next-generation X Board which effectively doubled the capabilities of the original *Space Harrier* hardware.

The three CPU set-up (two 68000s and a Z80) was the same, but both the program memory and graphics memory were doubled to 1MB and 2MB respectively – enough to finally make the jet sprite a reality. The graphics chipset was also bolstered to enable twice as many sprites (256) to be displayed on-screen and increase the framerate from 30 to 60fps. This meant that the air combat would be full-on and blisteringly fast. But that was not all. The sprite and background layers could now be fully rotated through 360-degrees – hello barrel roll! In another nod to *Top Gun*, the game's composer Hiroshi Kawaguchi has revealed that improved sound specs allowed him to synthesise the guitars required for the rock-themed soundtrack.

Key to Suzuki's success was marrying blockbuster games with show-stopping 'simulators' and he wasn't about to disappoint with *After Burner*. The deluxe sit-down cabinet was based on a jet cockpit and featured a flight stick, 20-inch monitor and four 10W speakers. Two motors provided the motion – one pitched the cab back and forth, the other rolled the seat left and right. Together they provided a physical experience that eclipsed anything else in the arcades at that time.

» Rick Clucas oversaw the Atari ST and Amiga conversions for Argonaut on behalf of Activision.

"I FOUND A YOUTUBE VIDEO TITLED 'SHIT GAME TIME, AFTER BURNER (EUROPE) AMIGA'. CAN'T SAY I WOULD DISAGREE WITH THAT"
RICK CLUCAS

Although the X Board hardware was transformative, and the deluxe cab was a 950lb monster, the gameplay was a more modest update of *Space Harrier*. Your jet was armed with two weapons – a cannon for shooting nearby enemies and missiles for taking down more distant targets once you'd locked onto them. Sometimes you would be perused by an enemy jet or heat-seeking missile and you had to perform barrel rolls to shake them. Despite the game's title, there was no way of increasing your speed by firing the afterburners – initially at least. The game launched in Japan in July 1987 with no throttle control and it was quickly determined that this made the game too difficult and negatively impacted on the gameplay in other ways. So three months after its debut, Sega unveiled an upgraded version that introduced a throttle lever alongside the ability to fire off missiles faster. The stage order was also shuffled and the total number of stages was increased from 19 to 23. Two of the new stages were ▶

MEMORABLE CAMEOS

AFTER BURNER HAS POPPED UP IN NUMEROUS PLACES...

■ The legacy of *After Burner* has extended to a number of games and films. In Yu Suzuki's *Power Drift* (1988), the F-14 can be played in a secret stage unlocked by finishing first in five races. The jet also makes a fleeting appearance in *Fighters Megamix* (1996) at the beginning of BM's stage (if you hold down the X button on both controllers). Easily the game's most memorable appearance is in *Shenmue 2* (2001), where the coin-op itself is one of four Yu Suzuki games that Ryo can while away the time playing. Moving on, the 'Sega Enterprise' aircraft carrier appears as both a court in *Sega Superstars Tennis* (2008) and a race track in *Sonic & All-Stars Racing Transformed* (2012). In the latter there's also a character called AGES who transforms into the F-14 when in flight.

In the movie world, the coin-op appears briefly in *By Dawn's Early Light* (1990) and *Suburban Commando* (1991). However its place in pop culture was secured when it featured in *Terminator 2: Judgement Day* (1991). Early in the film young John Connor is seen rocking and rolling in a deluxe *After Burner* cabinet while the evil T-1000 searches for him. Later, dickwad!

» [Arcade] Piloting the *After Burner* F-14 around a track in *Power Drift* is surely peak Suzuki.

» When he's not hacking ATMs and blasting Guns N' Roses, John Connor puts *After Burner* through its paces.

» [Arcade] The image of the F-14 ready for takeoff is almost as iconic as the Ferrari Testarossa on the start line in *Out Run*. Almost.

» [Arcade] The visual flourishes are sometimes subtle. Note how the setting sun is reflecting on the jet's underside.

FIRE & FORGET

BECOME A TOP GUN WITH THESE ESSENTIAL TIPS

TRIGGER HAPPY

■ Your Vulcan cannon is equipped with unlimited ammo so don't be conservative. Hold down the trigger while you play and you'll pick off both enemies coming from behind and approaching enemies who've evaded your missiles.

MOVING TARGET

■ It may sound obvious, but many players try to play it cool by staying still and only reacting to avoid missiles. It's much better to keep moving, using the whole of the screen area, while keeping a close eye on enemies on the horizon.

SMOKED OUT

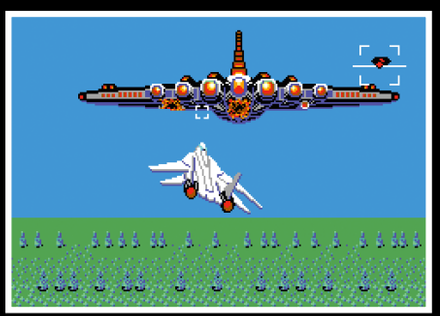
■ There's a temptation to fire off a barrage of missiles in the hope that they connect. However, the smoke trails on missiles are quite large, and if you launch too many, you won't be able to see a thing through the smoke. Not good.

FIRE AT WILL

■ The Lock-On light is useful for knowing when you've got an enemy in your sights, but even better is the "Fire!" audio cue. As soon as you hear that magic word, instantly fire off a missile and you're guaranteed to land a direct hit.

SPEED CONTROL

■ The throttle is not just for firing your afterburners. Use it to slow down when you're being tailed by an enemy plane and they'll often fly right past you, allowing you to turn the tables on them. Slow down during the canyon runs too.



OFFING GRANTANOFF!

■ This tip is specially for the Master System version. To destroy the large flying fortress you encounter on stages 6, 12 and 18, you need to shoot the three targets beneath its wings with your missiles; your cannon has zero effect.

automated runway sequences (that included neat cameos from the *Hang-On* bike and *Out Run* car), while the other two were playable and designed to add variety to the landscapes.

The upgraded game was titled *After Burner II* (*After Burner 1.1* might have been more accurate) and it was this version that was released in the West in late 1987. The visuals and overall playing experience were widely praised, but a number of critics cast doubts on the gameplay. Rather like its inspiration, *Top Gun*, it was a fast and flashy audience pleaser, but was there enough substance beneath its glossy veneer? This is perhaps why the game isn't as lauded as some of Suzuki's other hits from this era. It probably didn't help that in the UK it cost as much as £1 to have a spin in the deluxe cab. Regardless, it instantly became the top grossing arcade game when it was launched in the UK and it achieved similar earnings success in Japan and North America.

As with *Out Run* before it, there was a clamour for home conversions and they would duly arrive. First to appear was Sega's own Master System version which was somewhat unique, being based on the original Japanese coin-op (so no throttle control) and introducing its own unique elements (including boss fights against a large flying fortress and a refuelling minigame). Meanwhile, the rights to the home computer versions were secured by Activision UK which reportedly spent in the region of £100-250k for the privilege (it was almost certainly closer to the top end of that estimate). Multiple platforms were targeted

» Steve Clark was lead programmer of *Sega Arcade Gallery*, the 2003 GBA compilation that featured *After Burner*.

» [Arcade] You can evade heat-seeking missiles by either barrel rolling or hitting those afterburners.

» [Arcade] *After Burner II* added four new stages, including this memorable one that takes place over cloud cover.

and Activision commissioned internal and external teams to handle the work. For the 16-bit computer versions it turned to *Starglider* developer Argonaut Software.

"We were responsible for the Atari and Amiga versions," says Rick Clucas who managed the project for Argonaut. "To us they were the same thing as we developed them as one. For *Starglider II* I had created a system that allowed both the ST and the Amiga to run the same executable. We effectively created device drivers for all of the functions we cared about – graphics, sound and input/output – so that we could maximise the performance on each of the platforms, making the best use of the resources available. The look of *After Burner* was dictated to us by Activision who provided us with the graphics."

As with too many coin-op conversions, Activision was keen to capture the look of the game above all else, so the graphics it provided were quite large. "We had to do what we could with them," reveals Rick.

"I think the biggest problem with the large graphics was storage space as the game had to fit on a single disk. Image compression didn't really exist then, or at least we weren't using it on textures."

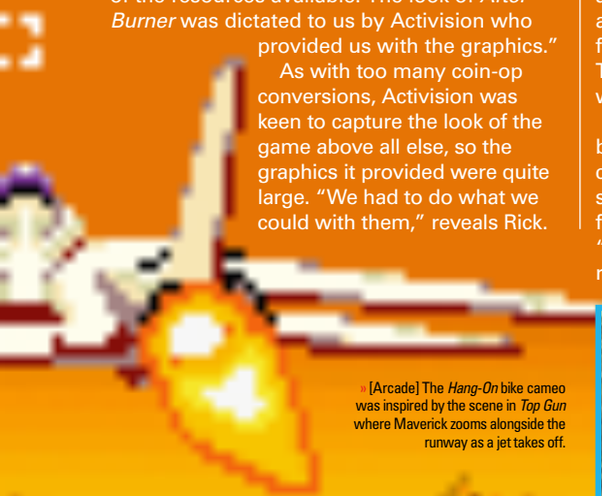
To get a feel for the game, the team was able to get hands-on with the coin-op, albeit briefly. "We got to spend a weekend at an arcade that had one and that was it. I liked the sit-in coin-op as it made it more of an experience, which is what the arcade was all about." The one area where Argonaut's versions actually expands on the coin-op is in the amount of speech used, with phrases like "Enemy! Three o'clock!" heard throughout. "We did this because we could," says Rick. "I had created a sample playback system for the original *Starglider* on the Atari ST and the speech was one of those things we were known for. People still talk about it today as being one of their childhood memories."

Looking back, *After Burner* is not a project Rick remembers with fondness. "I should have insisted that we do our own graphics as they would have looked much better. There were also tight timescales that created pressure to get it done. But it was all a very long time ago. These days I sometimes use the game as one of my Zoom backgrounds – I found the footage on a YouTube video titled 'Shit Game Time, After Burner (Europe) Amiga'. Can't say I would disagree with that."

That video's reference to 'Europe' is because there was a different Amiga conversion released in North America. The same thing happened on the Commodore 64, for reasons well-known to Darrin Stubbington. "Ah yes, *After Burner*..." he says with some reluctance. "At the time I was working in California for a company called IDG doing PAL to NTSC conversions of C64 games. This involved reprogramming the UK games to work in the US and converting them to a turbo-load disk format instead of tape. On certain games I added or changed graphics too. Well, the UK version of *After Burner* was such a poor version that we decided – both IDG and Sega – to recreate the entire game from scratch instead of doing the usual NTSC conversion. My roommate, Scott Blum, and I created the new US version with me on design and graphics duty, and Scott programming it." The Amiga version didn't pass muster either. "At the same time, my friend Jeff Spangenberg and my brother Matt did almost all of the Amiga version of *After Burner*, again for the same reason as the C64 rewrite – the PAL version was terrible! I created a few bits and pieces for the Amiga version, including the loading screen, but that was about it."

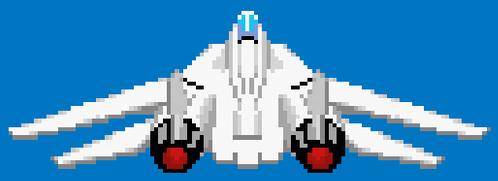
"THE GBA WAS POWERFUL BUT EVEN IN ASSEMBLER IT WAS NOT ABLE TO FULLY DUPLICATE SEGA'S SUPER SCALER TECHNOLOGY"
STEVE CLARK

Returning to the arcades, Suzuki has revealed that he only managed to achieve 60% of what he wanted to in *After Burner*. In particular he was keen to feature dogfights with the player battling it out against a select few enemies. He fulfilled this aim in his next air combat game, *G-LOC: Air Battle*, which was released in 1990. Compared to *After Burner*, *G-LOC* had more of a simulator feel with the action mainly viewed from the pilot's POV. This is why *G-LOC* was not billed as an *After Burner* game – although a more arcade-orientated update of *G-LOC* entitled *Strike Fighter* (1991) was later released for the Sega Mega-CD and FM Towns as *After Burner III*.



» [Arcade] The *Hang-On* bike cameo was inspired by the scene in *Top Gun* where Maverick zooms alongside the runway as a jet takes off.

» [Arcade] In the original Japanese version, the missiles drop from the jet before launching, which slows down your attacks. This was removed in the update.



There was excitement in the Sega world when *After Burner III* was unveiled as a Mega-CD exclusive, meaning that Mega Drive owners would have to make do with the so-so conversions of *After Burner II* and *G-LOC*. This quickly dissipated when it was discovered that the new game was a flaccid shooter that wasn't deserving of the *After Burner* name (blame marketing, folks).

Thankfully better news was coming on the *After Burner II* conversion front. The version for Sega's 32X add-on, released in 1995, was the first to match the visual quality of the arcade game, although it ran at half the framerate. The following year's Saturn conversion matched the coin-op's 60fps and we finally had an arcade perfect conversion. The home hardware had finally caught up with the coin-op, which was great news – unless you happened to be the man tasked with converting it to the Game Boy Advance.

In 2002, programmer Steve Clark was working at UK developer Bits when his boss Foo Katan revealed that three Sega licences were up for grabs. "He was planning to go for one of them and wanted to know which would be the preferred option," Steve remembers. "The licences were *Shinobi*, another game which I can't remember off-hand, and a four-pack of *After Burner, Out Run, Space Harrier* and *Super Hang-On*. Given that *Out Run* was my all-time favourite arcade game, I suggested the four-pack option. Foo was far keener on one of the single game options."

Foo was ultimately won over by Steve's enthusiasm and they started work on what would become *Sega Arcade Gallery*. "There was no way to match the experience of the cabinet's motion," says Steve, "but the display and gameplay could be reproduced, and with that in mind the project was started with enthusiasm rather than trepidation. Unfortunately, we didn't have access to any of the original code for this project, which on a personal level would have been incredibly interesting. This meant that all of the game and handling code needed to be re-engineered, and was written from scratch in ARM assembly language.

The GBA was powerful but even in assembler it was not able to fully duplicate Sega's Super Scaler technology. So the graphics were extracted from the original arcade ROM and then scaled down by Mark A Jones before being cut into sets of GBA sprites, using multiple sprites to recreate the larger game sprites. A great deal of effort was put in by Jas Austin and Martin Wheeler in recreating the waves! The music and effects were reproduced by the very talented Allister Brimble."

"WE REFERENCED MICHAEL BAY A LOT, AS A METRIC FOR HOW INSANE THINGS COULD BE ALLOWED TO GET"
RYAN KAUFMAN

One curious aspect is that the game is based on the original Japanese coin-op and not the 'sequel'. "*After Burner* rather than *After Burner II* was converted due to an initial misunderstanding," reveals Steve. "*After Burner* was originally specified for the conversion, so that's what we converted." There's also some confusion about the barrel roll manoeuvre and whether it's actually included in the GBA conversion. "It does indeed feature the barrel roll. It would have been criminal to not do so. To activate it, you need to hold the two shoulder buttons and move horizontally from one extreme to the other." Of the four conversions, Steve was happiest with how *Space Harrier* turned out. "It plays closest to the original machine. *Out Run* comes in a close second. I have no idea how the pack actually sold, but it seems to have been fairly well-received by reviewers. My favourite review said that the games were not emulations but rather tiny little doppelgängers of the originals."

In 2004 an update of *After Burner* was released for the PlayStation 2 as part of the Japanese *Sega Ages 2500* series. The game was recreated using polygons so it was more of a modern update than a conversion, and not an entirely convincing one. Far better was 2006's *After Burner: Climax* which saw the series finally swoop back into arcades. Sega had released two air combat arcade games in the preceding years – *Sky Target* (1995) and *Sega Strike Fighter* (2000) – but *Climax* was the first proper sequel. Featuring amazing visuals (see those blue Sega skies!) multiple routes, three different jet fighters (F/A-18E, F-14D and F-15E) and numerous other gimmicks to keep it interesting (the '*Climax*' in the title refers to a bullet-time special which you can activate to rack up huge scores). The result was a triumphant return that deserved to share floor space alongside *OutRun 2* (2004) and *OutRun 2 SP* (2004). In 2010 *After Burner: Climax* made the jump to consoles and was released as a downloadable title for the Xbox 360 and PS3, but it was unfortunately delisted in 2014 – and the same fate later befell the iOS and Android versions.

The home computer conversions were Activision's big hope for Christmas 1988 – although they faced tough competition from Ocean's *Robocop*.

CONVERSION CAPERS

WHICH OF THE HOME CONVERSIONS SOARED?

AMSTRAD CPC

■ The active screen area is tiny (just 208x128 pixels), which can make dodging missiles tricky, but this is otherwise a first-class conversion. It's nice and fast, which helps, plus it's plenty colourful. The absence of in-game music is a shame.

ZX SPECTRUM

■ Similar to the CPC version, only the graphics are limited to two colours. It's fast and responsive though, and overall it's the best you could hope for on the Speccy. The preferred disk version has more music and no painful multi-load.

MSX

■ This is a straight Spectrum port, although it plods along and lacks the speed which was the one thing that made the Speccy version tolerable. Once again MSX owners get stitched up. Avoid it like a heat-seeking missile to your rear end.

C64 (UK VERSION)

■ Great music and front-end presentation can't save this tragic conversion that's ugly, choppy and almost unplayable. What a waste of everyone's time and money. The *Zzap!64* lads hit this with a 17% review score and that was generous.

C64 (US VERSION)

■ This distinct version is heaps better than the UK effort. The screen is bigger and the sprites are a little better, but it still feels a bit *off*. This is probably because it's based on the quirky Master System version rather than the coin-op.

» [Master System] On Sega's 8-bit console, the refuelling sequence is a playable minigame where you have to hook up with the supply jet.

» [Master System] The *Top Gun* influences are obvious, yet the Master System version takes things a little further.

» [Amiga] Two separate conversions were released for the Amiga. Here's the preferred North American release.

» Ryan Kaufman designed and project led *After Burner: Black Falcon* for Sony's PSP.

ATARI ST

■ This looks good but plays poorly. Despite the large border, the framerate chugs throughout and quickly evaporates any excitement. Playing with a mouse feels right, but the controls are so laggy that your poor mouse may get launched.

AMIGA (UK VERSION)

■ The Amiga port arrived around four months after the ST version, but it's difficult to see what improvements were made in that time. The framerate is slightly improved and sampled effects have been added, but it's still another misfire.

AMIGA (US VERSION)

■ As on the C64, the separate version for the US market looks and plays better (albeit running at a fairly sedate pace). And similarly, it's based on the Master System game which means occasional boss fights and no throttle control.

PC

■ This late-to-the-party conversion wasn't really worth the wait. The graphics are OK and the framerate is fine – it's just nothing special. Naturally the music is terrible and makes the soaring tunes sound more like a funeral march.

MASTER SYSTEM

This, the first game for the console to come on a 4Mbit cart, is an attractive conversion where the game's shoot-'em-up qualities come to the fore. The graphics are great – this is easily the best-looking 8-bit version available.

» [Mega-CD] *After Burner III* was a conversion of *Strike Fighter*, with the main difference being that you could toggle between first-person and third-person views.

» [GBA] In case you were wondering, it really is possible to perform a barrel roll on the Game Boy Advance version.

» [GBA] Due to a communication mix-up, the GBA version is based on the original version rather than *After Burner II*.

CONVERSION CAPERS

NES

A Sega smash on the NES? That's right, thanks to this unlicensed release from Tengen. Visually it's not as faithful as the Master System version but it's playable. A prettified version was later released in Japan by Sunsoft.

FM TOWNS

This was the first conversion to really capture the visuals and sounds of the coin-op. The sprites are large (almost too large for the screen area) and the CD audio is fantastic, but of course it lacks the silky smoothness of the original.

X68000

The stalwart of accurate arcade conversions delivers once again. The missile trail effects are basic and the ground detail is lacking, but that's fine because everything else is pretty much spot on. It's a joy to play this version using a mouse.

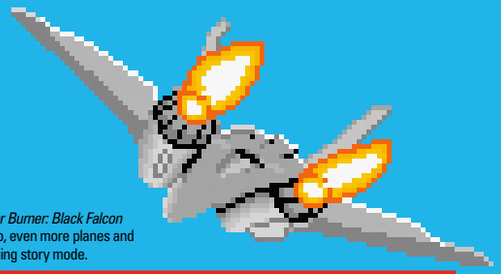
MEGA DRIVE

This is a pared-back port of the X68000 conversion by the same team (Dempa) and that's no bad thing. It seems to get a bad rep these days but this is undeserved. One complaint – the two mid-game landing sequences are missing.

PC ENGINE

Similar to the Mega Drive version, but it comes out on top as all of the coin-op content is included and the air combat feels more fluid. The soundtrack is superb and even features melodies that were cut from the original coin-op.

» [Arcade] Running on Sega's Lindbergh hardware, *After Burner: Climax* is as visually stunning as you might expect.



» [PSP] *After Burner: Black Falcon* added co-op, even more planes and an entertaining story mode.

The most recent game in the series was released exclusively for the Sony PSP in 2007. *After Burner: Black Falcon* was developed by Planet Moon Studios, a US developer that was focused on making games for Sony's handheld. "Sega wanted to revive some of its older brands on the PSP and *After Burner* was chosen as a potentially good fit," says lead designer Ryan Kaufman. "We knew some people at Sega America, so there was already a good relationship there, and they were open to us having some fun with the brand and basically not just doing a port." This was no port. Yes it was a rail shooter but for the first time in the series there was a story mode – or rather three overblown stories involving a trio of elite pilots tasked with retrieving stolen planes from a terrorist group. "We were thinking about what kinds of new experiences we could offer players," reveals Ryan. "I'd been working at LucasArts for ten years previously as a writer/designer, so it was really natural for me to want to include a story, to give the levels an extra sense of progression and context, and tap into something the franchise had never done." For fans of the original coin-op, *Black Falcon* also featured a strong Eighties vibe and lots of in-your-face action. "We are all genuine fans of films like *Top Gun* and *Iron Eagle*, and they have this over-the-top quality that we wanted to capture. We tried to replicate everything Tony Scott was channelling during *Top Gun*. We also referenced Michael Bay a lot, as a metric for how insane things could be allowed to get. Our motto for the game was 'speed, firepower and visual dazzle'. Everything in the game had to fulfil one of those requirements somehow."

Ryan reveals that the project progressed well and there was only one real challenge the studio had to overcome. "Weirdly, the way that a rail shooter actually controls the player's jet is nothing like how a normal game vehicle works. You don't have 360-degrees of freedom, for example. Similarly, the enemy jets that fly by in formation have to move *with* the player's jet in ways that are completely faked, otherwise you'd never have a chance in hell of hitting them. So we had to learn a lot about the secrets of how those mechanics actually worked to get something that felt good and completely natural in your hands. Overall I was really pleased with the results and the game still makes me smile. It's exactly the kind of simple fun that we wanted it to be, but it has enough replay depth that you can spend hours playing it, unlocking everything. I only wish we could have done more with the multiplayer modes and that more people had PSPs to enjoy the local co-op."

Sega's series has remained dormant since the release of *Black Falcon*. The only release of note has been M2's incredible 3DS conversion of *After Burner II* in 2013 (this was only issued physically in Japan on the *Sega 3D Fukkoku Archives 3* collection, but it's available to download from the Nintendo eShop so go and grab it while you still can). Playing the game on the go, in stereoscopic 3D, is great, but at some point we would love to see the series return to home consoles – or even better, the arcades where it made its name and truly belongs.

32X

It's not arcade perfect – it's running at 30fps, half that of the arcade original – but in 1995 this was the closest thing you could get to arcade *After Burner*. Rutubo Games deserves huge credit for managing to emulate the sprite scaling in software.

SATURN

Another Rutubo conversion and this one manages to hit the heady heights of 60fps for the true arcade-at-home experience. To seal the deal it includes a bunch of gameplay options and support for various analogue controllers.

DREAMCAST

Compared to the superb Saturn release, the Dreamcast version is disappointing. There are zero options, so you can't change the awkward default controls, and the music sounds strained. Otherwise it's a fast and very faithful conversion.

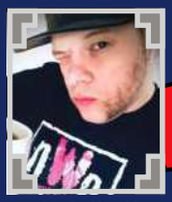
GAME BOY ADVANCE

Based on the original *After Burner* rather than the update (for reasons explained in the main feature), this is a decent conversion that struggles to shine on the GBA's small, low-res screen. [I bet it shines on the Analogue Pocket – Ed]

3DS

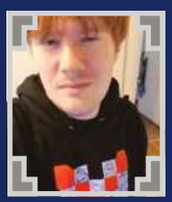
Not so much a conversion as an outstanding remaster from the ever-reliable M2. There are enough options and extras to please the most dedicated fans, but it's the stereoscopic 3D presentation that injects new life into this arcade classic.

MATT EDWARDS



CHRIS MOYSE

IAN SLUTZ



JON KLIMAS

JOSEPH K GARRAHAN

SCOTT MCCRAE

STEVEN MANE

35 YEARS OF STREET FIGHTER

A CULTURAL PHENOMENON

FEW SERIES TRANSCEND THE GAMING BUSINESS, BUT STREET FIGHTER HAS COME TO BE MORE THAN JUST A COLLECTION OF GAMES – IT'S A YARDSTICK BY WHICH ITS GENRE IS MEASURED, AND A BELOVED ICON OF POP CULTURE. DEVELOPERS AND FANS TELL US WHY CAPCOM'S CLASSIC IS SUCH A UNIQUE PROPERTY

WORDS BY NICK THORPE

Have you ever come across one of those brands that just seems to be everywhere? You probably remember kids doing *Fortnite* dances at each other, and if you've got a young daughter, you'll doubtless be familiar with the Japanese icon Hello Kitty. If you have any interest at all in films or geek culture, the dominance of Marvel characters is overwhelming. All of these properties are united not only by their popularity, but by their association with another pop culture phenomenon – *Street Fighter*. Yes, Capcom's series is best known for 35 years of excellent digital fighting, but its influence reaches far beyond the realm of videogames and into film, comics, music, crossovers and more.

You don't have to look hard for proof of this, either. You might have been a fan of the band Hadouken, or picked up the *Champion Edition* version of Sonic Boom Six's EP *Sounds To Consume*. Plenty of people saw Peter Griffin name drop Blanka and Guile when naming his children on *Family Guy*, and others will have spotted Zangief and M Bison in a support group for videogame villains in *Wreck-It Ralph*. Even other videogames have cheeky nods here and there – if you take a close look at the fighters that Rugal has defeated and turned to statues in *The King Of Fighters '94*, you'll see some very familiar faces.

It's fair to say that 35 years ago, nobody would have ever predicted the future success of the series. "I first encountered the original *Street Fighter* in a corner at a local pizza place," says Joseph K Garrahan, a 3D character animator with credits on *The Last Of Us Part II* and the 2013 *Killer Instinct* reboot. "The large character sprites were interesting but the controls felt a bit clunky." That's an assessment that wouldn't have been out of place in any UK magazine of the time – *Street Fighter* was considered to be graphically exciting and momentarily diverting, but also something of a novelty due to the pressure-sensitive rubber attack buttons. Nick Kelly of *Commodore User* voiced a common concern in questioning whether it would amount to "much more than a novel experiment in coin-op technology", and while it wasn't a bust, it wasn't a revolution either.

35 YEARS OF
STREET FIGHTER
A CULTURAL PHENOMENON

» [Arcade] The original *Street Fighter* feels dated, but its special moves would define future fighting games.

» [Arcade] *Street Fighter II* defined many key character archetypes, including bruising grapplers like Zangief.

SIX DEGREES OF RYU

IS STREET FIGHTER'S BEST-KNOWN CHARACTER THE CENTRE OF THE GAMING UNIVERSE?

RYU

RYU NUMBER 1

MARIO
SUPER SMASH BROS ULTIMATE

ULALA
PROJECT X ZONE

YOSHIMITSU
STREET FIGHTER X TEKKEN

RYU NUMBER 2

MCA
NBA STREET V3

MICHAEL JACKSON
SPACE CHANNEL 5

SPAWN
SOULCALIBUR II

RYU NUMBER 3

PRINCE CHARLES
NBA JAM: TOURNAMENT EDITION

HILLARY CLINTON
READY 2 RUMBLE BOXING: ROUND 2

SUB-ZERO
MORTAL KOMBAT 11

RYU NUMBER 4

CLIVE SINCLAIR
SPLIT PERSONALITIES

JOE BIDEN
NBA JAM

FREDDY KRUEGER
MORTAL KOMBAT (2011)

■ Some of you may be familiar with the game *Six Degrees Of Kevin Bacon* – if not, it involves picking an actor and finding their Bacon Number, the fewest steps to prolific actor Kevin Bacon. For example, Idris Elba has a Bacon Number of two, because he was in *The Unborn* with Rhys Coiro, who was in *One Way* with Kevin Bacon. In the world of videogames, Ryu is the best analogue to Kevin Bacon. The rules, set by the Twitter account @RyuNumber, are that the connection must be in a commercial videogame, cannot be a time-limited promotion (such as the *Fortnite* crossover) and must involve unique identifiable individuals.

Even with those constraints, there are plenty of surprising people with Ryu Numbers. For example, Ryu can fight Mario in *Super Smash Bros Ultimate*. The GameCube version of *NBA Street V3* allows Mario to share a court with MCA of the Beastie Boys, and he could find himself facing down Prince Charles in *NBA Jam Tournament Edition*. Therefore, Prince Charles has a Ryu Number of three. There are some more examples above, but give it a go and see who you can connect to Ryu.

» The animators really captured Cammy's aggression well in the *Street Fighter II* animated movie.

By contrast, *Street Fighter II* was a revolution. "Whispers came through magazines of this brand-new fighting game taking Japan and the US by storm, and once it started showing up in UK arcades, me and my friends were absolutely hooked," says Chris Moyse, senior editor at Destructoid. "It wasn't even just in arcades, you could find *Street Fighter II* in video stores, chip shops, laundrettes, everywhere." Ian Slutz, senior character systems designer at 343 Industries, remembers the same being true in the US. "When *Street Fighter II* came about, it became the most ubiquitous cabinet. Normally you'd compare notes, you'd be like, 'OK, the 7-Eleven has this game, and this other place has that game,' but suddenly almost everywhere had a *Street Fighter* cabinet."

What made the game so special? It's easy to argue that it's the fighting engine, which was easily better than anything else available at the time, but that was an unknown quantity to anyone who had yet to drop a coin in the slot. Rather, it was the decision to move away from a single generic martial artist and introduce a bold, colourful and varied cast of characters. "I know I tried to mess around with Guile because he was the American character," says Ian. "But he didn't really match my style of playing and I couldn't do any of the fireball or dragon punch motions when I started playing, so the character that really stuck with me was E Honda."

The characters didn't just provide wide appeal, but a depth of interaction that quickly birthed a flourishing competitive scene. "We've been running what you would now call esports-style tournaments since 1991," says Capcom's Shuhei Matsumoto, producer of *Street Fighter 6*. "The success of *Street Fighter* is in the meeting of those passionate and supportive community fans and the original developers who made such great games." The need to support those aspects of the game was quickly recognised. "Capcom kept adding new characters, stages and extra words to the title. This made the hype last for years," says Joseph. "Bootleg versions with weird things started popping up, also giving it an aura of mystery."

The game was just as much of a phenomenon in the home. "The SNES port was responsible for introducing a lot of UK videogame fans to importing, with people (myself included) rolling out silly amounts of money to get hold of a Japanese cart and converter," says Chris. "We held an all-Japan *Street Fighter II* tournament in the Kokugikan Arena in Tokyo," says Matsumoto, referring to a 1993 event in which the SNES version of *Street Fighter II Turbo* was played. "This is a traditional venue for sumo tournaments, so the fact that thousands of people were there for *Street Fighter* was just incredible to me." Excellent versions also arrived on the Mega Drive and PC Engine, and by the time of *Super Street Fighter II Turbo*, even the 3DO.

It didn't take long for the wider world to take notice. While Japanese readers got a serialised manga in *Family Computer Magazine*, Malibu Comics introduced a short-lived series in America. Such adaptations typically played fast and loose with the story of the series. "In the early days, it was easy to get away with almost anything, considering there wasn't that much of an in-game story to begin with," says Steven Mane, owner of the Mane Street Blog which focuses on *Street Fighter* lore. "One of my friends picked up the White Wolf *Street Fighter* pen-and-paper RPG," recalls Ian, who remembers it as being one of the stranger merchandising options to be explored. "It's just like the silliness, the incongruity of those guys making an RPG." An anime movie based on *Super Street Fighter II* was released in the summer of 1994, and went on to become one of the top five highest-grossing films of the year in Japan.

That wasn't the only film project, as Hollywood had also recognised the success of the series. "I was very used to seeing *Street Fighter II* screenshots and artwork plastered all over the likes of *CVG* and *Super Play*, but when the posters and trailers started showing up for the live-action *Street Fighter* film with Jean-Claude Van Damme, that was something else," says Matt Edwards, the *Street Fighter* brand manager at Capcom Europe. "Whatever you think of the film itself, this was one of the earlier signs that *Street Fighter* (and videogames in general) weren't going to stay in their lane. There was so much more to this than pixels and combos." The movie certainly wasn't popular with critics, but it rode the interest in the

» [Arcade] M Bison is an iconic villain, and his Psycho Crusher an equally iconic attack.

» *Street Fighter*'s first big-screen adaptation was popular in Japan, and is still exciting today.

"THE SNES PORT WAS RESPONSIBLE FOR INTRODUCING A LOT OF UK VIDEOGAME FANS TO IMPORTING"
CHRIS MOYSE

» [Arcade] *Street Fighter II* catered to the competitive crowd with gameplay updates and refinements over five instalments.

» [Arcade] The *Street Fighter Alpha* series began to depart from the established visual and play styles.

COPYCAT COMBAT

WHAT HAPPENED WHEN CAPCOM TOOK THE FIGHT TO THE COURTROOM?

Street Fighter II is well-known for inspiring a boom period in arcade fighting games, with popular games such as *Mortal Kombat*, *Virtua Fighter*, *Tekken* and *The King Of Fighters* all launching within a few years of Capcom's hit. But when *Fighter's History* hit arcades in 1993, Capcom felt that Data East's game was essentially a clone of its own and in 1994, it filed lawsuits seeking damages and a preliminary injunction to prevent distribution of the game.

For its part, Data East had previously unsuccessfully sued Epyx over claims that *World Karate Championship* (better known as *International Karate*) had violated its own copyright in *Karate Champ*. In that case, Epyx had argued that the similarity between the two games was the simple result of making a game about karate, and Data East used a similar argument in its defence against Capcom.

In his decision, Judge William H Orrick Jr agreed that Data East had intended to imitate *Street Fighter II*. The proposal for *Fighter's History* contained 22 references to Capcom's game, and the court determined that Matlok, Feilin and Ray were similar to Guile, Chun-Li and Ken. However, many of *Street Fighter*'s moves were generic punches and kicks that could not be protected by copyright, and though some of Data East's characters were similar, they were not virtually identical and the use of recognisable character tropes was permissible. Data East ultimately prevailed, and the ruling has since served as a reference point for which aspects of a game can be protected by copyright.

games to financial success, and many fans have embraced its silliness in the years since. "I have a huge soft spot for the 1994 Jean-Claude Van Damme movie," says Scott McCrae, a freelance games journalist. "It may be terrible, but man if it isn't extremely fun to watch."

The success of *Street Fighter II* paved the way for plenty of rival fighting games, both 2D and 3D, some of which inevitably became successful in their own right. To keep the series relevant, Capcom moved away from updating *Street Fighter II* and began to present its cast in new situations. The *Street Fighter Alpha* series adopted a new anime-inspired art style and provided a connection between the first and second games, as well as introducing characters from the *Final Fight* series. In 1996, *X-Men Vs Street Fighter* pitted Capcom's combatants against beloved comic-book superheroes in tag-team matches, becoming the first part of what would ultimately grow into the chaotic *Marvel Vs Capcom* series. The *Street Fighter EX* series by Arika took the series into 3D for the first time, and added some truly bizarre new cast members.

When the long-awaited *Street Fighter III* finally arrived in 1997, it was something of a misfire that failed to connect with even established fans. "I do remember going, 'Where's all the characters, where's Guile?' And I think that was the big issue a lot of people have with it," says Jon Klimas, a competitive player who won the *Super Street Fighter II Turbo* tournament at Combo Breaker 2022. "Even me as a casual back then, it's like, 'I'm gonna play my favourite characters. Oh, there's no Balrog, there's no anybody.'" Only Ryu and Ken survived the cull, though Capcom later developed two *Street Fighter III* series updates which brought back Akuma and Chun-Li. "We called it the Dark Ages, *3rd Strike* happened and then it just died for like a decade," says Geoff Mendicino, a project manager and Capcom content creator.

Of course, there was plenty to enjoy for players that stuck with *Street Fighter* beyond its initial peak. While the critical reappraisal took years to come, *Street Fighter III: 3rd Strike* is now widely regarded as a classic game with plenty of depth and arguably the best sprite animation ever. Fans of the story like Steven were also well catered for. "In *Alpha*, Ryu gained a fan in Sakura and a mortal enemy in Akuma, we found out the story between Chun-Li and M Bison, we got to see the origins of several characters, we got Rose, the Shadaloo Dolls and Karin Kanzuki," he explains. "In *III*, we got Alex, Ibuki, the Illuminati and the greatest mystery in gaming, Q."

» [Arcade] The likes of Sakura and Dan approach the popularity of the classic *Street Fighter II* cast.

Even though the *Street Fighter* series itself was no longer actively being developed by the turn of the millennium, the cast of characters was too strong to disappear. They continued to see action in crossover games like *Capcom Vs SNK*, *Marvel Vs Capcom* and later *Capcom Fighting Jam*. That ultimately allowed players to start to miss the series, and when *Street Fighter IV* was unveiled in 2008 it was greeted with a wave of massive enthusiasm. The *Street Fighter II* cast returned in full 3D glory, with the gameplay sticking to the tried and true formula with some mechanical tweaks, such as the introduction of Ultra Combos which allowed for spectacular comebacks after a big beating.

"All of a sudden, the whole game industry was all about fighting games," says Geoff. "You had the nationwide GameStop tournament, all the local shops were holding their own tournaments. It was like a resurrection of fighting games." While *Street Fighter IV* wasn't the only intriguing fighting game of the time, it was far and away the most popular, as reflected in the way it drove up attendance at Evolution 2009. "I don't think people do this any more, because it's been like 13 years, but people call people who started with *Street Fighter IV* 'O-Niners' because they started in 2009," says Jon. "Me too, I'm an O-Niner, just because that's when I tried to start playing the game competitively. And I think a buttload of people did too."

Much like *Street Fighter II*, *Street Fighter IV* had a long shelf life thanks to its many updates, serving as the main focus of the competitive scene for seven years. "I remember staying up till early hours of the morning watching

» [Arcade] Dhalsim's stretchy limbs make him fit right at home alongside Marvel's heroes.

» [Arcade] Familiar faces are key to the series' appeal, which hampered the *Street Fighter III* sub-series.

"I HAVE A HUGE SOFT SPOT FOR THE 1994 JEAN-CLAUDE VAN DAMME MOVIE. IT MAY BE TERRIBLE, BUT MAN IF IT ISN'T EXTREMELY FUN TO WATCH"

SCOTT MCCRAE

» [Arcade] *Final Fight* has essentially become part of the *Street Fighter* universe, thanks to their shared fighters.

» [Arcade] Bringing back Chun-Li for *Street Fighter III: 3rd Strike* was a popular move, but a late one.

SHOUT OUTS

HERE ARE SOME OF THE MOST MEMORABLE REFERENCES TO STREET FIGHTER IN FILM AND TV

YUYU HAKUSHO
1992

■ This animated adaptation of a supernatural adventure manga gives plenty of cameos to *Street Fighter II* characters in the ninth episode, The Search Begins. Fighters resembling Zangief, E Honda, Dhalsim and Ryu can all be seen in the crowd, waiting to meet the psychic master Genkai.

CITY HUNTER
1993

■ This Hong Kong action flick, another adaptation of a manga series, has a whole scene based around *Street Fighter II*. After Jackie Chan's character Ryo is knocked into an arcade cabinet, he hallucinates that his opponent is Ken, and eventually secures victory by adopting Chun-Li's character.

AMERICAN DAD
2010

■ In the Halloween episode *The Best Little Horror House In Langley Falls*, Steve Smith, dressed as a GoBot, takes out Akiko, dressed as Chun-Li. Toshi, Steve's friend and Akiko's brother, ends up pursuing them both with a sword after Steve breaks his promise to bring Akiko home by sundown.

FAMILY GUY
2011

■ This one comes from the episode *Tiegs For Two*. After the local dry cleaner loses Peter Griffin's favourite shirt, Peter breaks into the cleaner's house and takes his shirt. The dispute ends up escalating into a *Street Fighter II* tribute fight, in which Peter uses Ryu and Ken's moves and loses.

HI SCORE GIRL
2018

■ Yet another manga adaptation, and one packed with *Street Fighter* shout outs, as it follows Haruo Yaguchi, who begins a rivalry with his rich, talented classmate Akira Ono after she destroys him in a game of *Street Fighter II*. The game remains key to the plot throughout the entire series.

» [PS2] Arika's *Street Fighter EX* characters, like Skullomania, never crossed over into the main series.

"I REMEMBER GOING TO THAT EVO WHEN STREET FIGHTER V CAME OUT AND THERE WERE MORE THAN 5,000 PEOPLE IN THAT TOURNAMENT"

JON KLIMAS

» [Arcade] The *Street Fighter* cast was mainly used for crossover games between 2000 and 2007.

» Udon's comic books are great for fans who want to know the characters better.

EVO MOMENT 37

WHY DAIGO'S EPIC PARRY IS THE GREATEST PRO GAMING MOMENT EVER

■ We'd honestly be surprised if anybody reading this hadn't seen this sensational moment in competitive *Street Fighter*. During a game of *3rd Strike*, Justin Wong's Chun-Li has a commanding life lead over Daigo Umehara's Ken, but Daigo mounts an impressive comeback – unable to block because chip damage will kill him, he parries a full super combo before executing his own to win the round. It became a viral video in 2004, which is extremely impressive when you consider that it couldn't be uploaded to YouTube because YouTube didn't yet exist. As well as inspiring many to revise their opinions of *3rd Strike*, the clip was responsible for alerting many to competitive *Street Fighter*. "That blew up everywhere, everyone's seen it," says Jon Klimas. "And then after that I was like, 'Oh, those people play this game competitively?'"

What makes this moment so special is that it has more in common with the best moments in offline sports than other esports moments. You don't have to understand football to appreciate a goal from a long range, curling free kick, nor golf to be impressed by a hole in one. Most esports highlights require some functional knowledge of the game in question to understand them, and when you know the difficulty of the timing involved in the parry, it's all the more impressive. However, the Daigo parry is very easy to understand – even if you know nothing about *Street Fighter*, you get the sense that you're watching a master at work.

» The video ends with "You had to be there". We disagree – it's utterly captivating on video too.

» Daigo repeated the feat in an exhibition rematch ten years later, but didn't win the match.

Evo 2011's *Super Street Fighter IV* finals," says Scott. "While the esports side of it has definitely gotten bigger since, *Street Fighter IV*'s run definitely felt like the high point in terms of casual and competitive hype [during my time as a fan]." *Street Fighter V* arrived on a similar wave of anticipation, too. "I remember going to that Evo when *Street Fighter V* came out and there were more than 5,000 people in that tournament," Jon tells us. "I think it was the biggest *Street Fighter* event period, because 5,000 people is a staggering amount even for something like Evo."

With *Street Fighter 6* on the way, *Street Fighter V* is now reaching the end of its own life cycle, having consistently been one of the most played games in the fighting scene. But while the latest entry in the series usually takes the lion's share of participation, the older games maintain their own dedicated followings. "One of the unique aspects of *Street Fighter* is that the battle system changes with each main numbered entry," says Matsumoto. "For this reason, people still play the previous main games like *Street Fighter II, Street Fighter III* and *Street Fighter IV*, even when *Street Fighter V* is the current game. There are even tournaments for the past entries still running! I think that's amazing." Indeed, when Jon won the *Super Street Fighter II Turbo* event at Combo Breaker 2022, he was at the head of a very healthy field of 87 competitors.

But for all of the joy of winning, it's the sense of community around *Street Fighter* that keeps players coming back. "I used to work in the game industry, at Modus Games. In 2020 COVID happened, I wanted to go home, be close with my parents and all that stuff. This is my first time in California again for three years," says Geoff. "Yesterday was my birthday, actually, and I went to a bar that was run by a *Street Fighter* diehard. His name is Richard, but he runs this bar called Barcode in Los Angeles. I was just inviting a few friends I knew in the area that were *Street Fighter* related and so many *Street Fighter* people came out. It was absolutely insane." Jon describes his love of the game as being "90% the people" and says, "In our group in Pittsburgh, I always say we're not going to be the best, but we're always going to have the most fun."

When asked why they think the series remains such a competitive fixture, Capcom's developers come to a similar conclusion. "Put simply, the passion of the players," replies *Street Fighter 6* director Takayuki Nakayama. "The people who lived through the era of *Street Fighter II* being popular in arcades are now the ones who are reacting to and spreading the news of game and collab announcements, and helping to create a vibrant community." Kazuhiro Tsuchiya agrees. "I think this applies to all brands with a long history, but the developers are bringing a passion vision for the games which matches the intensity of the passion of the fans. Propelling the series forward with our shared love for it is what sets *Street Fighter* apart, I would say."

***Street Fighter* has also inspired many of our interviewees to enter the games industry themselves, and it has informed their work there.** "I've been buying *Street Fighter* art books since the Nineties, analysing all the illustrations. When the home ports came out, I used to pause quickly to see all the animation frames in slow motion," says Joseph. "I did this for fun, but it became useful when I had to do combat animations for work. The biggest inspiration comes from the character's choreography, especially the anticipations for the moves and how they return to idle. *Street Fighter* never takes the easy path, they create complex and creative motions that flow in a very short amount of time. I challenge myself to create moves with that sort of enthusiasm and not settle for easy choreography."

"I was super obsessed with *Street Fighter* for seven years, *Street Fighter IV* specifically," says Geoff. "And if I didn't hold on to that love for so long, then I wouldn't have been able to branch out to other games and be able to

» The very American Jean-Claude Van Damme stars alongside the very British Kylie Minogue.

» Unexpected collaborations abound, as *Street Fighter* characters become *Magic: The Gathering* cards.

» When Hello Kitty dresses as M Bison, does she become evil or is she just pretending?

» [PS4] Callbacks to popular past settings have been utilised ever since the *Alpha* series.

» [PS3] The *Street Fighter IV* series was well-received and buoyed the entire fighting game business.

» [PS3] The expressiveness of the characters in *Street Fighter* games is always fun to see.

» [PS3] Even as the Marvel Cinematic Universe launched, Ryu could be found beating up Iron Man.

"WHEN I GOT MY FIRST JOB AT CAPCOM, IT JUST SORT OF BECAME THE BACKGROUND OF OUR ENTIRE LIVES"

IAN SLUTZ

work on fantastic titles such as *Divekick*, *Killer Instinct*, even non-typical fighters like *Override*." Ian found that the game was embedded into the culture while working on the *Maximo* games. "When I got my first job at Capcom, it just sort of became the background of our entire lives. You start a build, you play a round of *Street Fighter*, you close down a bug, you play a round of *Street Fighter*."

The series inspires plenty of fan work too, as you can see from the Alternate Costumes boxout. Then you have efforts like Steven's blog, the fan research that inspired it and the stories that result from that love for the characters. "I started writing fan fiction for myself when I was 14, and that led me to a deeper understanding of the characters and how they'd react in certain situations," says Steven. "Fortunately, I didn't have to rely solely on head canon for very long because of someone on GameFAQs who went by the name Tiamat. His plot guide, for years, was the gold standard for finding out about *Street Fighter* lore. It was well-researched and really dug deep into the game's story, even going so far as to translate from the original Japanese. These days, I prefer to use Fandom and official sources for my research, but everyone who's into *Street Fighter* lore started with Tiamat, myself included."

It's that love for the game's cast that really shines through, even with our competitively inclined interviewees, and while the *Street Fighter II* cast is most beloved by the wider public there is plenty of love for the later introductions, particularly Rose, Karin and Rufus. "My current favourite is the Korean razor blade herself, Juri. Since her debut in *Super Street Fighter IV*, I've been fascinated by her manic personality, wild visual design, and unique play style. She's got her hooks into me," says Chris. "As a competitive player, I find myself proud of 'representing' my character. When I fight, it's like I'm taking 'my' Juri into battle, equipped with the skills I've spent hours practising. That player passion definitely expresses itself through gameplay, and the audience can feel it, and thrive off of it."

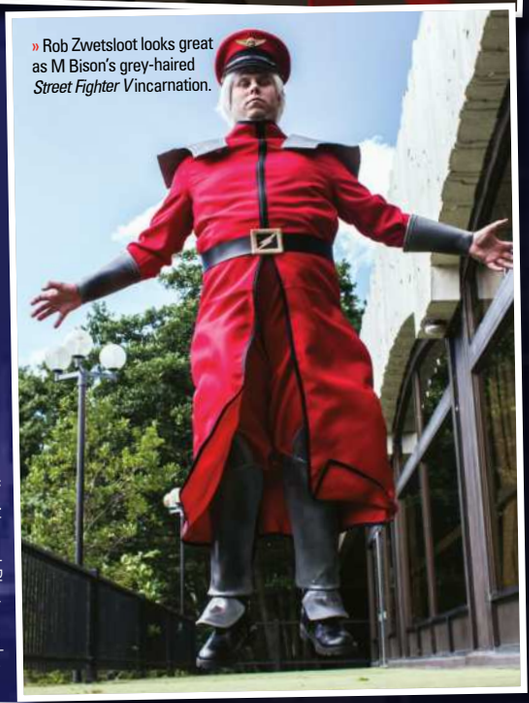
» We love the attention to detail of making the *Monopoly* money into Bison Dollars.

With *Street Fighter* being so ingrained into pop culture, it's not hard to imagine that the series could endure for another 35 years. What would that look like? "We'll probably be on *Street Fighter 12* by then," says Nakayama with a laugh. "I have no idea what that would look like, so I suppose the best I can hope for is that people are still enjoying the series by then!" Matsumoto chimes in, also laughing. "I was thinking the same thing – 35 years got us to *6*, so I hope we make it to *12* in another 35! I'll do my best to keep this a series that people love, even 35 years from now." Matt adds his own take. "I can barely even fathom where *Street Fighter* will be by the time I'm in my 70s. From 1987 to 2022, you can still perform a Hadoken with a quarter-circle motion and a button press. Will the same be true of *Street Fighter 12* in 2057? I hope it'll still be an option. But even if *Street Fighter* evolves into something that goes beyond the core mechanics – the punch-tapping electricity and chargeable flash kicks that have been its calling card since *Street Fighter II* – there will still be a dedicated community that plays the classic titles."

Matt goes on to outline a vision of the future. "In 35 years' time, *Street Fighter V Champion Edition* and *Street Fighter 6* will be in similar place to where *Super Turbo* and *3rd Strike* are now. They'll be retro games that introduced many players to the fighting game community, and I suspect they'll still be played alongside future generations of *Street Fighter* titles. Some fans may stick with *Street Fighter 8* for a specific character while others may organise yearly *Street Fighter 10* tournaments for the love of a core mechanic. That's the beauty of the *Street Fighter* series. It means many different things to many different people. I hope that never changes." We get the feeling that as long as Ryu and the gang can cross over with anything and never feel like second fiddle, it never will change. ✱

» Starry Marie made her impressive Sakura costume herself.

» AEW wrestlers Matt Jackson, Kenny Omega and Nick Jackson (L-R) in their *Street Fighter* attire.



» Rob Zwetsloot looks great as M Bison's grey-haired *Street Fighter V* incarnation.

Photo credit: Alucard Photography

ALTERNATE COSTUMES

WHAT DOES IT TAKE TO COSPLAY A STREET FIGHTER CHARACTER?

■ Cosplay is one of the many ways that fans express their love for *Street Fighter*, whether they're long-term fans or relative newcomers. "My first encounter with *Street Fighter* was probably in 2016 through some friends," says Starry Marie. "I honestly was drawn to Sakura because I see a lot of myself in her character! We look a bit alike, but aside from that she's outgoing, determined, free-spirited and kind-hearted." It's more than just fancy dress, as Starry made the costume herself. "At the time I was super new to sewing, so it was pretty difficult for me. I hadn't made very many cosplays myself, and had never made a seifuku or pleated skirt. It probably took me around 40 hours to make."

That high-level of effort is common. "This costume can take up to a month to make, depending on your free time, mainly because the armour pieces are custom made from thermoplastic that you shape and warp with heat then prime and paint over several sessions," says M Bison cosplayer Rob Zwetsloot, whose costume is the realisation of a long-held ambition. "I've always enjoyed a good hammy villain in fiction, and M Bison in the Nineties was a great example of this. From his ridiculous story in the *Alpha* games to Raul Julia's portrayal in the film, he quickly became a favourite. Throw in a good costume design and it became the thing I wanted to make for years."

There are plenty of famous faces who have donned the costumes of the iconic fighters too, with wrestlers and mixed martial arts fighters seeming particularly drawn to the series. At All Elite Wrestling's Fyter Fest event in 2019, Kenny Omega and the Young Bucks wore ring gear inspired by Akuma, Ryu and Ken, while their colleague Claudio Castagnoli made light of an eye injury in 2014 by comparing his new look to that of Sagat. MMA fighter Angela Hill drew plenty of attention when she showed up to weigh-ins dressed as Sagat and Dhalsim, and also wore a fantastic Elena costume for Comic Con. But it's not just people in combat sports that join in with the fun – Jamie Lee Curtis remained incognito at Evolution 2015 by hiding under the mask of Vega, and you can see Himari Tsukishiro of the Japanese heavy metal idol group Necronomidol dressed as Chun-Li, right.

» When she's not performing on stage, Necronomidol's Himari Tsukishiro enjoys cosplaying characters like Chun-Li.

THE EVOLUTION OF

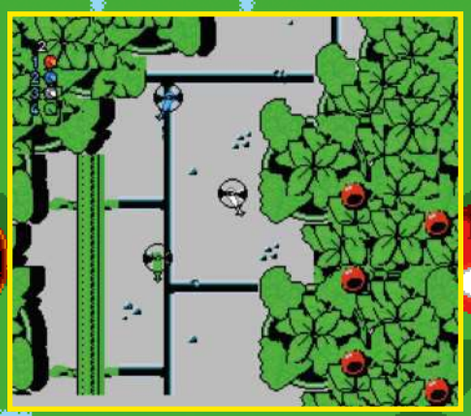
Micro Machines

THE ORIGINAL

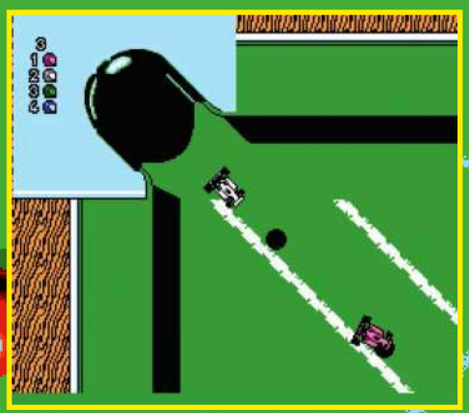
SCALE MINIATURES

WHEN CODEMASTERS APPLIED ITS EXPERTISE IN TOP-DOWN RACERS TO A POPULAR TOY CAR LICENCE THE RESULT WAS A HIT CONSOLE TITLE. THE CREATORS OF MICRO MACHINES AND THE DEVELOPERS OF ITS MANY SEQUELS DISCUSS HOW THE LONG-RUNNING SERIES EVOLVED

WORDS BY RORY MILNE



» [NES] The dense foliage in *Micro Machines*' greenhouse levels is effectively an obstacle course.



» [NES] The *Micro Machines* designers thought of its pool-table track in the pub while playing pool.

» [NES] *Micro Machines* was originally a dune buggy racer, which looked much like the NES classic's sandpit course.

MEET THE MICRO MACHINES MECHANICS

COLIN NICHOLLS

Colin Nicholls was a co-designer of the levels for the 2016 *Micro Machines*.

JOEL BEARDSHAW

The levels for the iOS/Android *Micro Machines* were co-designed by Joel Beardshaw.

MARK NEESAM

The background artwork for *Micro Machines 2* was created by artist Mark Neesam.

PAUL PERROTT

Artist Paul Perrott co-designed the original *Micro Machines* with coder Andrew Graham.

STEVE HOLLEY

Before *Micro Machines V3*, Steve Holley worked on the hardware side of earlier games.

TOBY EGLESFIELD

After the DOS *Micro Machines 2*, Toby Eglesfield became lead artist on *Micro Machines V3*.

» [Mega Drive] *Micro Machines 2* has numerous modes, like its Leagues mode, where you compete in a division.

STAGES OF EVOLUTION: TOP-DOWN TURBOS

THE CLASSIC ORIGINALS THAT SET THE TONE

MICRO MACHINES

Building on the popular top-down racing games in Codemasters' *Simulator* series, *Micro Machines* extends the format with scrolling courses in place of single-screen tracks. It cleverly depicts its licence's cars at toy-size, and has you racing them around pool tables and school desks.

MICRO MACHINES 2: TURBO TOURNAMENT

Micro Machines 2 isn't just a prettier version of the original, it also introduces some fun new modes. As well as solo challenges against the clock, you can compete in a league, but the sequel's greatest addition to the series comes in the form of its chaotic eight-player Party mode.

MICRO MACHINES: MILITARY

Racing armed-vehicles was a component of *Micro Machines* from the first game onwards, but what its military-focused follow-up does is to make a game of this recurring feature. As well as races, *Micro Machines: Military* features single-screen shoot-outs and shoot-'em-up bonus rounds.

In some ways it's ironic that *Micro Machines* was such an original game, as its gameplay largely refined concepts established by the top-down racing titles Codemasters had published in the mid to late-Eighties. In fact, much of its novelty came out of a tie-in with toy manufacturer Galoob, which the game started off without, as its artist Paul Perrott explains. "There were a number of titles being thought of for Galoob, and one of them was Andrew Graham's game," Paul says of his former co-designer's NES racer. "It was top-down, with these dune buggies bouncing around a course. This was my first graphics job, and when someone said, 'Do you want to do this?' I thought, 'Sure.'"

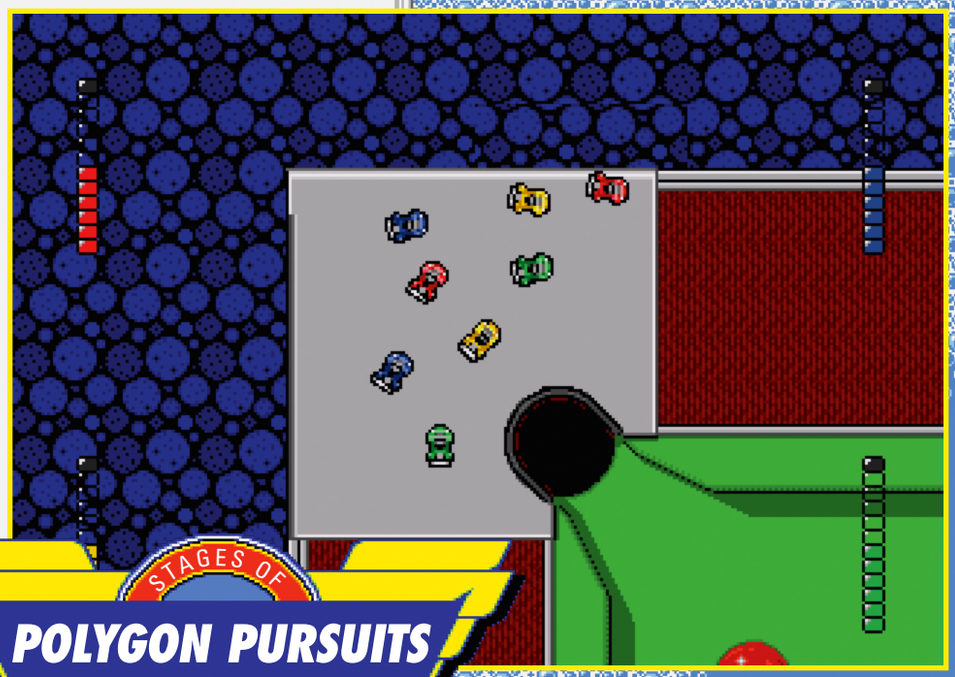
> "THE LEVEL DESIGNS WERE JUST WHATEVER WE THOUGHT OF DOWN THE PUB — I LITERALLY SUGGESTED THE POOL-TABLE LEVEL AS WE WERE PLAYING POOL THERE!"
>
> **PAUL PERROTT**

The two-man team got set up in a less than ideal workspace, which led to some early head-to-head play-testing with consequences for the loser. "We were working in a portakabin at the back of a farmhouse in the freezing winter," Paul grimaces. "We used to play the game, and whoever lost had to brace the weather, go to the farmhouse and bring back coffees! Andrew was tweaking the game engine, and I was coming up with graphics. Then the Micro Machines licence was pretty much just slotted into the gameplay he already had." Following a suggestion to depict the now licensed project's vehicles at toy-size, its developers sought inspiration for where to race them. "The level designs were just whatever we thought of down the pub – I literally suggested the pool-table level as we were playing pool there," Paul laughs. "The first level we came up with was the one with the school tables, and that was so much fun. It brought us back to when we were in school, and the design carried on from there."

As well as suitable racetrack locations, *Micro Machines* needed more vehicles than just dune buggies in order to reflect the wide range of toys that it had to be based on. "The dune buggies made it through to the sandpit level, but we also wanted race cars, which were more linear and had tighter cornering," Paul remembers. "They were put in the pool-table level, because of the long straights. Then the boats were obviously in the bathtub level, they had more of a skid effect, and the tanks were put in the garage."

This focus on representing a variety of different modes of transport wasn't entirely without risk, however, in that some were ▶

Micro Machines iOS images courtesy of Erik-André Mamen. / *Micro Machines 2* course maps courtesy of smspower.org's Maxim.



STAGES OF EVOLUTION:

POLYGON PURSUITS

» [Mega Drive] If you don't mind sharing game pads there's an eight-player party mode in *Micro Machines 2*.

less fun to race than others.

"I think one of the least successful levels was the one with the helicopters in the green house," Paul admits. "I was never a particular fan of that, just because of the collisions, I think. But again, it was another vehicle, and we got a *flying* vehicle. We also had ground vehicles and an aqua vehicle, so everything was pretty much covered."

Although already novel thanks to its eclectic tiny vehicles and its full-size home and garden locations, a colourful cast of drivers added to *Micro Machines*' originality. "I painted some watercolours of the characters, and got those approved," Paul notes. "I just tried to be as representative as possible so that anyone could relate to them. Plus they had to all be different, so you had the cool guy, the pretty girl and the slightly overweight chap."

Seen as a fresh take on the top-down racer, *Micro Machines* topped several charts. Its sequel was outsourced to two firms, with its visuals being entrusted to Mark Neesam. "I was an artist working on the level graphics

KEY GAMES THAT TOOK THE SERIES INTO THE THIRD DIMENSION

MICRO MACHINES V3

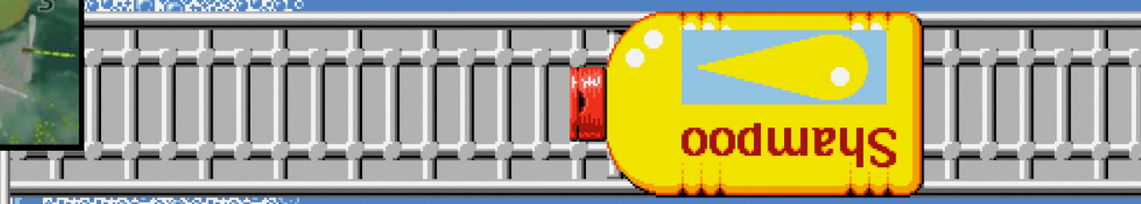
Although 3D, *Micro Machines V3* shifts to a top-down perspective when practical. But more importantly, it successfully adapts the frantic chases that made its 2D predecessors so popular. Where *V3* innovates is with its over-the-top power-ups, which range from fireballs to huge mallets!

MICRO MANIACS

Where *Micro Machines* has you racing tiny vehicles, *Micro Maniacs* sees you racing odd little people. The licence-free spiritual sequel further differentiates itself with imaginative level designs, and with eclectic weapons, each of which is unique to one of its odd-looking characters.

MICRO MACHINES V4

Memorable for crazy locations including building sites and chicken coops, *Micro Machines V4* also stands out for its focus on power-ups. Before you win better models, you drive an outclassed car, so you have no choice but to fight for pick-ups such as weapons, health and speed boosts.



» [Mega Drive] A few well-placed shots can completely change a race in *Micro Machines: Military*.

MICRO MACHINES 2: TURBO TOURNAMENT

1 You're in danger of a nasty fall right from the off in Tiny Treehouse, so speed up accordingly, and try to drift gracefully around the precariously-sited first bend.

2 Keep in lane for the top straight – there's a gap to the left with a long drop down. Then skid around the brick, and accelerate along the track's only long straight.

3 Avoid driving over the sweets at the bottom-right of the course, if at all possible. Doing so at speed bumps you up in the air and off the side of the treehouse.

4 Make sure you're absolutely mid-lane for the short and very narrow straight after the sweets, and don't risk sharing it with another vehicle – it'll only end in tears!

5 Take care not to drive over the round knots in the wooden floor of the treehouse, or if you do then don't hang about as they can fall out and take you with them.

» [Mega Drive] *Micro Machines: Turbo Tournament 96* was a PAL-exclusive update of *Micro Machines 2* that added new tracks and the PC version's level editor.

> "[MICRO MACHINES 2] KEPT THE BRILLIANT ORIGINAL CORE GAMEPLAY, AND THEN THREW THE KITCHEN SINK AT IT TO ADD VARIETY AND LONGEVITY"
>
> **MARK NEESAM**

outsourced to Big Red Software, which had close links with Supersonic through both having worked with Codemasters," Mark says of the arrangement. "I was responsible for all the background artwork: the surfaces the races took place on – tables, beaches, gardens etc, and all the obstacles and incidental details – like the food and crockery on the tables, and the plants and tools in the garden."

Since *Micro Machines 2: Turbo Tournament* was a 16-bit title rather than a NES one, Mark had scope to add additional locations, but he also adapted some of the original's. "A lot of the work involved taking existing assets from the first game and tweaking them a little if needed," Mark acknowledges. "Then I added new ideas for scenery to keep things fresh. I remember it being a lot of fun, with freedom to add whatever I liked providing it served a purpose and fit within the limitations of the system."

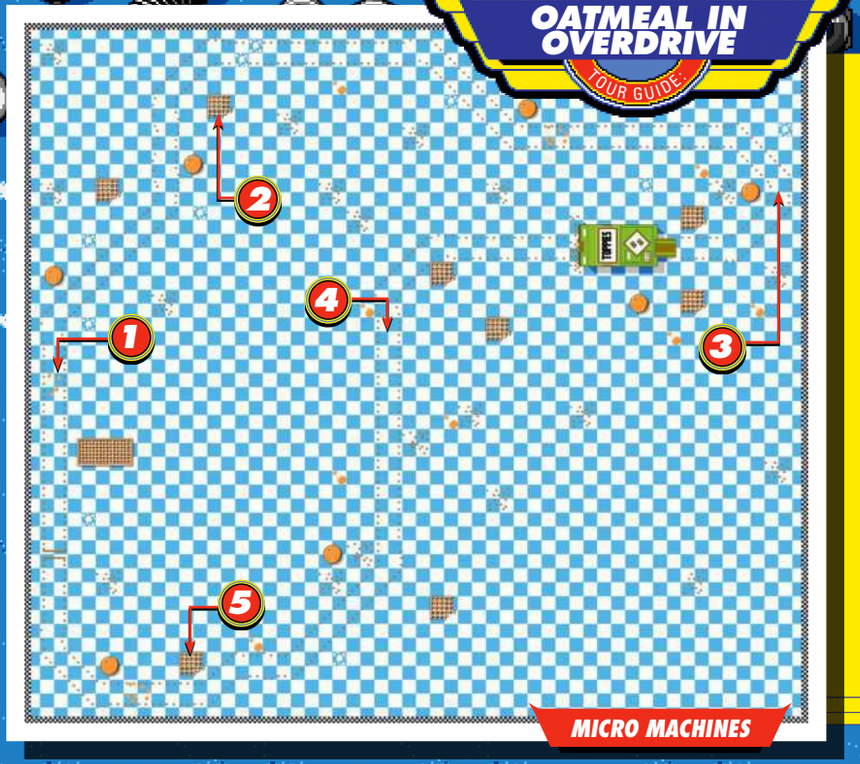
Although he worked on the sequel as an artist and had no contact with the game's designer, Mark's visuals may still have helped shape *Micro Machines 2*'s gameplay. "It's possible that my graphics inspired mechanics," Paul considers. "I drew artwork for the DIY levels with the power-drill bits, and then Supersonic made them move in and out to create a timed hazard. Similarly with the dining table, where a corn on the cob was used as a hazardous rotating bridge; I drew the original bridge and somebody else had the idea of spinning it."

While *Micro Machines* had been successful, its popularity was eclipsed by its sequel *Turbo Tournament*. Mark puts this down to it respecting and enhancing the original. "I think *Micro Machines 2* was so popular because it built so well on what had come before," Mark reasons. "It had all the things you would want from a sequel for that type of game – it kept the brilliant original core gameplay, and then threw the kitchen sink at it to add variety and longevity."

Behind the scenes, the *Micro Machines* series had been made possible by a team led by Steve Holley, which developed cartridge technology that allowed the games to run. "I was an electronics engineer, and I was hired to look into issues Codemasters was having with its American cartridges," Steve says. "They had been produced in Taiwan, and they weren't working very well. So we set up a factory in Leamington Spa, and we developed a product called a 'plug through,' which got around the NES's security system. That went on into the Mega Drive, when we produced *Micro Machines 2*, and then we developed the J-Cart."

J-Carts were cartridges with two joystick ports built in, and as well as *Micro Machines 2*, an enhanced version – *Turbo Tournament 96* – was also released on this format, as was its spin-off *Micro Machines: Military*. "As far as I know it was based on the Micro Machines range of military vehicles – and I'm not an expert on those at all!" Steve jokes. "I presume there was a specific range that was being launched by the toy guys. Obviously there was shooting if you played as the tanks in *Micro Machines*, so it was really based on that. We played it in the factory when it came out, and it was really funny ▶

TOYCHEST TOUR GUIDE: OATMEAL IN OVERDRIVE



1 Veer off course to the right to avoid the marmalade splat on the opening straight – it really slows you down, then get back in lane and slalom past the oranges.

2 Slow down and drift around the second waffle, otherwise you'll fly off the table! Get your speed up, skid around the right-hand bend, and dodge the marmalade.

3 Cut your speed right down for the hairpin, and drift right around it. Stay mid-lane and you'll be lined-up for a ramp that takes you over the cereal packet.

4 Skid around to the left, and then pick-up speed on the long downwards straight, then ease off on the gentle right-hand bend and the winding path that follows.

5 If you're at speed when you see the final waffle then it's vital that you hit the brakes. It's just above the table edge – a fall can cost you the race, and you don't want that.

▶ blasting the crap out of each other!" But despite its appeal, the military-themed *Micro Machines* was a one-off, which Steve feels was related to its lack of long-term playability. "It was a highly amusing game, but not one you played for very long," Steve observes. "It wasn't like the original, where it would draw you in and would keep you playing it for hours and hours. That was the difference, I think. But it was fun, we enjoyed it, and the eight-player games were hilarious. What we used to do was grab a cartridge off the production line every so often and have a play at it – as part of the quality assurance – that was a perk of the job if you like!"

While Steve was testing *Micro Machines: Military* carts, the original game's coder Andrew Graham was previewing the PlayStation, and thinking about the series going 3D. "I don't remember giving much consideration to a 2D version," Andrew recalls. "The thought of taking *Micro Machines* into 3D was just too much to resist. I had ideas about the cars jumping over ramps, falling to the floor and driving up the walls!"

As well as a new perspective, the PS1 sequel – *Micro Machines V3* – was given new features, such as collectibles that could be found off course as well as on the tracks. "We had shortcuts to surprise your friends in multiplayer games, so it was worth putting in remote power-ups to give players interesting paths to take," Andrew points out. "We designed the weapons to work well in multiplayer, where the idea was to give the people behind an advantage."

There were also innovative objectives in *V3*, including the chance to win prize cars that could be saved to a memory card and raced against your friends. "We knew that kids built up big collections of the cars, so it seemed like a nice fit for a long-term goal," Andrew reflects. "It also gave an incentive to play through the single-player challenge, since that would give you a better selection of cars to play in the multiplayer game." Beyond its novel mechanics, *V3* represented a big step up from its predecessors in terms of its visuals, which required research by lead level designer Toby Eglesfield. "I think the garden environment was the first one," Toby reckons. "The reflection of the sky in the pond was us thinking what we could do with that. I remember getting a book out on garden plants, and learning about hostas and things like that."

Another stage took Toby back to his school days, which was probably unavoidable given that it was set in a classroom full of desks littered with text books. "Everyone was designing levels that had nostalgia and humour, and I remembered that kids at school joked about what they wanted to do for jobs," Toby muses. "They'd say something that was totally unlikely, so I gave the school books in *V3* titles like 'How To Be A Dolphin Trainer!'"

Further humour followed with the introduction of *V3*'s most memorable weapon – a great, big mallet that attached itself to vehicle roofs when a player picked it up. "The mallets crossed a boundary," Toby concedes, "but we knew they were going to be fun! We were trying to keep that thing from when

> "I DON'T REMEMBER GIVING MUCH CONSIDERATION TO A 2D VERSION. THE THOUGHT OF TAKING MICRO MACHINES INTO 3D WAS JUST TOO MUCH TO RESIST"
>
> **ANDREW GRAHAM**

» [PlayStation] *Micro Machines V3* brings the series into the polygon era while retaining the original's gameplay.

» [PlayStation] Silly weapons are *Micro Machines V3*'s gift to the series – just look at that mallet!

» [PlayStation] A spiritual successor rather than a true sequel, *Micro Maniacs* is clearly of the same lineage.

» [N64] *Micro Machines 64 Turbo* was a neat update of *V3* that let eight players play using four N64 pads and came boxed with a free Micro Machines toy.

» [PS2] Rather than a fun extra, you absolutely need the power-ups in *Micro Machines V4* to win the early races.

you were growing up and silly things would happen. It was what kids would imagine if they were playing with toy cars."

Providing oversight on *Micro Machines V3* was Steve Holley, who had been working in-house since it had become clear that the need for cartridge production had passed. "When the PlayStation was announced I moved into the main company, where I started as a producer," Steve recollects. "Once *Micro Machines V3* entered the alpha or beta stage I saw it through testing, where we would make comments if the levels weren't very good or didn't work. This was the first PlayStation title that Codemasters had made, so there was a hell of a lot of emphasis on it being right when it went out."

On release, *Micro Machines V3* garnered critical acclaim, but its follow-up ditched the licence in favour of on-foot racers, after a realisation by its designer Andrew Graham. "We were aware that the series had built its own popularity, and wasn't dependant on its association with the toy cars," Andrew notes. "So when it came to *Micro Maniacs* we made the decision to break the link altogether. I still cringe to think of the software the *V3* level designers used. I had to write it myself, and it wasn't up to modern standards, to say the least! So for *Micro Maniacs* we employed a dedicated tool programmer who developed an excellent Windows-based editor that was in another league."

Another coder on the project was Andy Severn, who remembers the unique-to-each-character weapons in *Micro Maniacs* being a product of using specialists. "The team started with just three of us," Andy says of the development process. "It was Scott Evans and myself in a tiny basement room as programmers, working with Andrew Graham as the lead designer. As the team grew I took on the role of lead programmer, and I developed the PS1 graphics engine. The amazing weapons systems were coded by a small subgroup dedicated to making those look and feel just right. In those early days of 'joined-up games production' having specialist groups really seemed to work out for us."

Having been the producer on *Micro Machines V3*, Steve Holley followed the progress of its follow-up, and felt that ▶

STAGES OF EVOLUTION: FUTURE CLASSICS

THE TITLES THAT BROUGHT MICRO MACHINES UP-TO-DATE

MICRO MACHINES (IOS)

Heavily influenced by Codemasters' previous title *Toybox Turbos*, the iOS/Android *Micro Machines* has more courses and exploits its Hasbro-owned licence by including a Hungry Hungry Hippos level! Unlike other titles in the series, you don't have an accelerator or brakes to worry about.

MICRO MACHINES: VR RACING

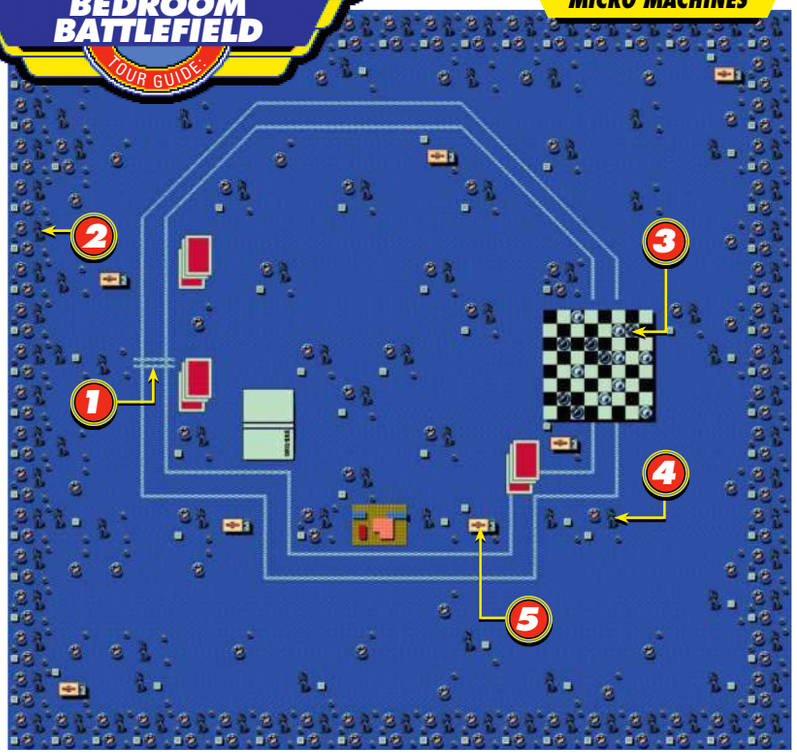
As a concession to motion sickness, *VR Racing* restricts itself to gently panning in and out and from left to right. In terms of innovations, there's an Escape mode – where you race a deadly line that chases you, and an Overtake mode – where you get quotas of slow drivers to pass.

MICRO MACHINES: WORLD SERIES

As well as welcoming back Hasbro's hippos, *World Series* further leverages its licensing by having Nerf guns for weapons! Besides high-speed races around domestic settings, it has a six-vs-six Battle mode, with challenges such as Capture The Flag, King Of The Hill and Bomb Delivery.

TOYCHEST BEDROOM BATTLEFIELD TOUR GUIDE

MICRO MACHINES



1 Treat the starting line as a battlefield, and blow away as many of your rivals as possible. If you end up in front swerve left and right to avoid return fire or you might lose the lead.

2 The obstructive toy soldiers scattered around Bedroom Battlefield's upper straights help the course live up to its name, so make sure that you don't go too far off course.

3 The chessboard can be a seriously awkward obstacle, but you can drive between it and the dice on its right, and then back onto it just above its bottom-right square.

4 You need to slow down for the right-angled bend in order to not crash into the toys beyond, then you speed up for the straight and take out any opponents in front.

5 Look out for the matchbox that marks another right-angle bend in the road, and keep your speed under control for the next one just after the short straight.

» [PS2] Unlikely locations such as chicken coops are par for the course in *Micro Machines V4*.

» [PC] *Toybox Turbos* was *Micro Machines* without the licence, and influenced the iOS *Micro Machines* title.

Micro Maniacs fell short of its licensed predecessors. "*Micro Maniacs* was racing little people instead of cars," Steve reviews. "It was to get away from the licensing, but it just didn't work. It wasn't anywhere near as successful as the *Micro Machines* titles. I think the joy of *Micro Machines* was the relationship you had with the characters. We were always arguing about who was going to play as who. We'd be saying, 'I don't want to be bloody Dwayne!' and as soon as you lost that a lot of the appeal of the earlier games disappeared."

Although well-reviewed, *Micro Maniacs* was followed by a licensed *Micro Machines* title, although *V4* didn't entirely appeal to the designers of the next game in the series. "It was interesting going back to *Micro Machines V4*, because it was quite brutal," Colin Nicholls contemplates. "Level design had moved on, and what we found was that you had levels with right-angled corners that gave you no forewarning before they came up. So that became a main consideration on *Micro Machines* iOS, that we would be a lot more forgiving on the corners, and give players a lot more warning. I think we did balancing on the speed of the cars as well, so that they could react to any obstacles."

Fellow level designer Joel Beardshaw has memories of reviewing not just *V4*, but the entire line of *Micro Machines* games, with a view to bringing back their best locations. "I was more of a Nintendo kid when I was growing up, so *V4* – and *V3* even – were kind of new games to me when I started working on the iOS game," Joel concedes. "I remember looking for the types of environments that people really loved across the whole *Micro Machines* series. Because we were excited to be making a *Micro Machines* follow-up, and so we wanted to look back at the things that we were nostalgic for, and also make sure we were hitting the notes that people expected." Prior to *Micro Machines* iOS, both Joel and Colin had worked on *Toybox Turbos* for Codemasters, which was accurately reviewed as *Micro Machines* without the licence. "*Toybox Turbos* was an Xbox Live/PSN game with generic *Micro Machines* type cars," Colin explains. "All the stuff around them was very generic as well – like we had wooden trains. So that was a really fun game to do, and that kind of laid the groundwork for the iOS *Micro Machines*, just with tweaks where we converted the controls for touchscreen."

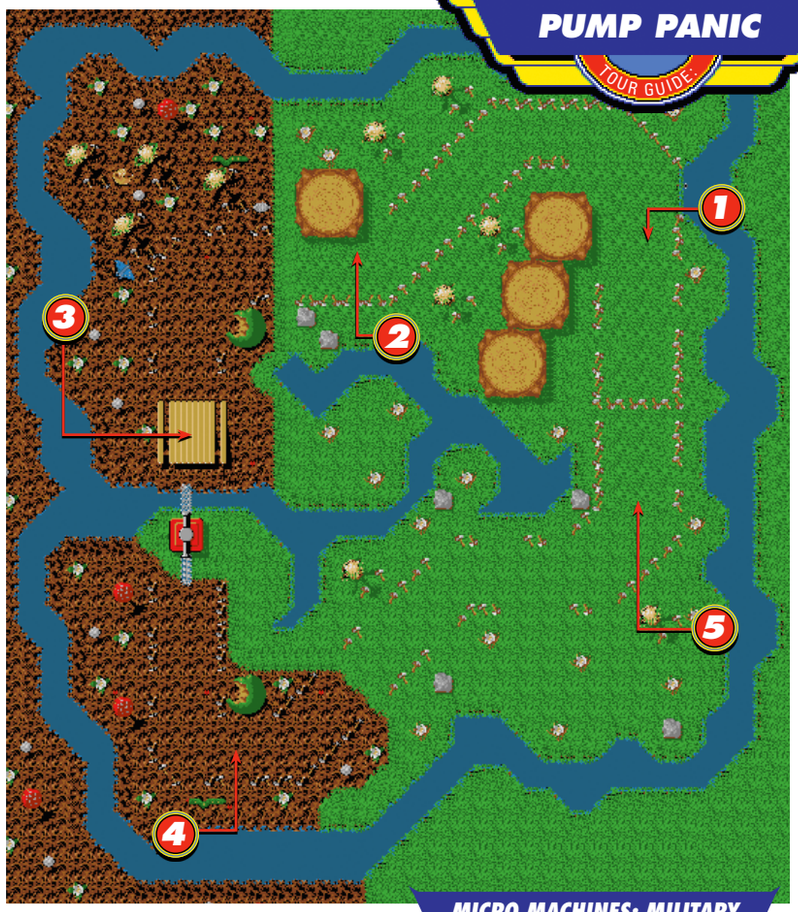
More specifically, *Micro Machines* for iOS lacked an accelerator and brakes, a decision that was made for good reasons, as Joel makes clear. "That was mainly down to the touchscreen, and how much we could fit on it – especially with smaller devices. The problem was that we had left and right on the left-hand side, and if we had accelerate and brake on the right-hand side you would have had to take your thumb off of one of the two in order to use a power-up – neither of which was good!"

» [iOS] Building new vehicles by earning parts is a fun new aspect of the 2016 *Micro Machines*.

» [iOS] Cornering is easier in *Micro Machines*, as its vehicles don't have brakes or accelerators.

TOYCHEST TOUR GUIDE

PUMP PANIC



MICRO MACHINES: MILITARY

1 Speed along the opening straight, and then drift left around the row of tree stumps. Get off a few rounds at the other racers, as they'll be doing the same to you.

2 Keep the drift around the first few tree stumps going, and then rotate the back end of your car 180-degrees to the left in order to skid past the lone tree stump.

3 Approach the lollypop stick ramp at speed, or you'll fall short of dry land. Make sure your jump takes you directly over the water pump, otherwise you will get penalised.

4 Skid around the hairpin, but keep to the lines marked on the course. Otherwise you risk ending up in the water that surrounds the right-hand side of this section of track.

5 Pick up the pace along the final straight. But keep in mind that this is a good stretch to shoot rivals into a spin, or for them to blast your vehicle out of control.

Further concessions were made to the iOS *Micro Machines*' host hardware, insomuch as it was made possible to fit runs around its courses into spare moments. "It was really about making it accessible," Colin notes. "The races were meant to be super-quick, where you could run around a track in maybe 30 seconds. It wasn't to mean we couldn't put right angles or hairpin bends in, but we had to be forgiving. So we put lots of run-off space in so that you wouldn't fall off a table, and ensured that we didn't have any dead ends or snags."

In addition to the different approach to its levels, the relationship between the weapons and vehicles in the iOS *Micro Machines* was looked into, in order to better theme them. "Each of the vehicles in iOS had a couple of weapons that were different for them," Joel remembers. "So if it was a fire truck then when you got the machine gun pick-up you got a water cannon that would push people away rather than damaging them, and if you had a snowplough then instead of dropping bombs you would drop ice bombs."

Since most of the game's weapons inflicted damage, the idea of racing toy cars was taken a step further, in that vehicles broke into pieces if they took too many hits. "We turned all of the bits of damaged cars into physics objects," Joel explains, "and making them fall apart was just a fun, satisfying way of making them feel like toys. So it was trying to remind players that these weren't real cars."

» [Android] As well as looking nice, *Micro Machines: VR Racing* is designed to not make you sick!

> "I REMEMBER LOOKING FOR ENVIRONMENTS THAT PEOPLE LOVED ACROSS THE MICRO MACHINES SERIES, BECAUSE WE WERE EXCITED TO BE MAKING A FOLLOW-UP"
>
> **JOEL BEARDSHAW**

» [Android] Familiar environments such as the science lab return in *Micro Machines: VR Racing*.

» [PC] As well as Micro Machines, *World Series* makes good use of some other Hasbro toys.

A fortunate opportunity came out of the Micro Machines licence having been taken over by the toy giant Hasbro, which the iOS game's designers took full advantage of. "I remember everyone was really excited, especially about Hungry Hungry Hippos!" Joel grins. "We were happy to get that into the game. Then some people in the team were big fans of GI Joe, so there were lots of GI Joe vehicles around too. There were the Nerf guns as well; the weaponry was skinned around Nerf weapons, which kind of fit that toy-like feel."

As work on the iOS title drew to a close, a subgroup of its team split off to make *Micro Machines: VR Racing*. Colin didn't work on it, but he remembers its origins. "*VR Racing* would have been an opportunity to make a game for the Gear VR store," Colin points out. "So I think there might have been a deal done with Samsung, where *VR Racing* was a bit of a quick offshoot of iOS to try to get that all up and running."

As with all VR projects, a key objective of *VR Racing* was to avoid making its players feel ill, which was achieved by gently moving the camera while avoiding rotating it. "Its top-down table view was the easiest on the eyes and mind," Colin confirms. "It also accentuated that the vehicles were toys, as it gave them that scale. So that worked quite nicely with the smooth motion as you went around the tracks looking down at the table-tops."

The VR title's boss races closely resembled those in *Toybox Turbos*, which gave Colin a special insight into how the one-on-one races were being made in VR. "That was structured so that you would go to an environment – like a toy room – and do a series of races," Colin reviews. "Then before you progressed to the next environment you'd face-off with a boss. There wasn't an extra layer of content on the boss tracks; the challenge was purely on boss AI." Of the modes in *VR Racing*, its Escape challenge stood out for its originality, in that it tasked you to keep ahead of a deadly line that approached you from behind at speed. "The Escape mode was a challenge that went through a few iterations," Colin reveals. "We finally settled on a 'cloud' that followed the player around. It was kind of cool, and it worked pretty well."

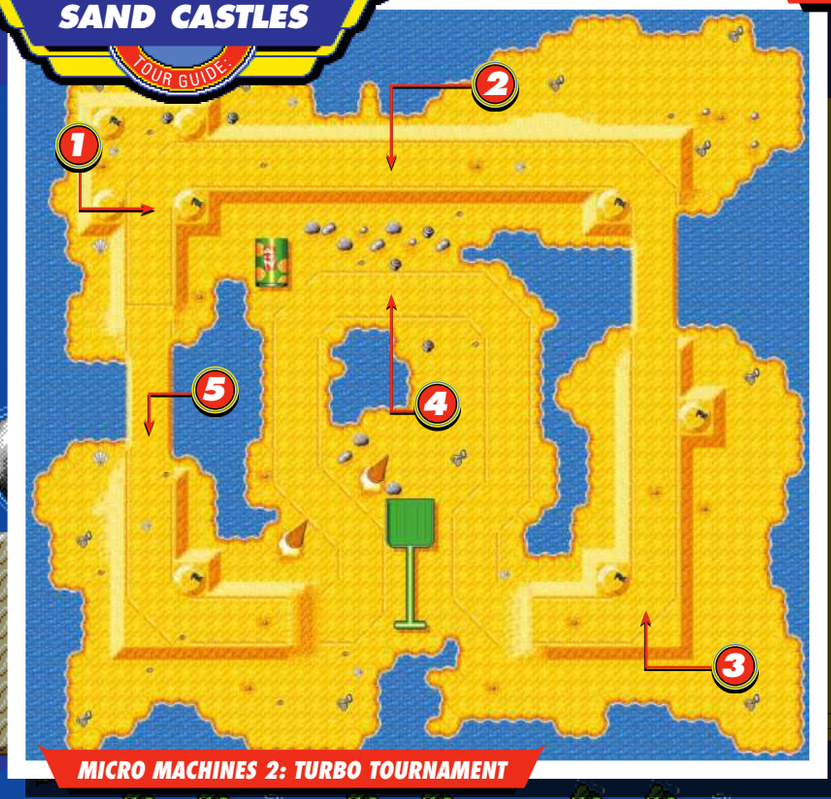
On the back of positive reviews of iOS and *VR Racing*, work was started the following year on a combat-focused follow-up, which Colin was again on level-design duty for. "When we released the iOS game we did lots of focus testing in obscure territories, like Australasia and Singapore," Colin recalls. "That was so it didn't get a lot of visibility, but still got tested in a live environment. It had little battle mode arenas in it, and I think there was a lot of data that came back that people were playing them a fair bit. So we wanted to put a focus on battle arenas in *World Series*."

The key to the latest *Micro Machines* title's battle arenas lay in the different team-based online-multiplayer challenges that its developers could set within them. "The cool thing was finding game modes that were fun to play," Colin enthuses, "and finding out how the power-ups would work with them, and it was very straightforward to go into the traditional games of Capture The Flag and King Of The Hill. It was also an interesting challenge working out how to get the cars to work well in a battle-arena environment. It wasn't first-person, so you couldn't twitch and shoot behind you, so all the guns were auto-aim."

Micro Machines: World Series also had local multiplayer modes, including smaller battle arenas, which fit with the overall theme of vehicular combat in the game. "We always wanted *Micro Machines* to be that couch-play social game that you played when you got back from the pub," Colin beams. "I think with iOS *Micro Machines* we had small arenas with four player matches, which we then retained for the *World Series* local play. They were just on one screen, and the camera would zoom out when the players dispersed and zoomed back in if the gameplay got exciting."

Reviewers deemed *World Series* a worthy addition to the *Micro Machines* series, and like the original game it topped the UK charts. The

TOYCHEST TOUR GUIDE: SAND CASTLES



MICRO MACHINES 2: TURBO TOURNAMENT

1 Drift to the right soon after the starting line, knocking as many rivals as possible off course while doing so. This should get you straight into qualifying position.

2 Hammer along the upper straight and drift at the top-right corner of the track, then speed down the next straight, keeping mid-lane since it gets narrow in places.

3 Skid around the bottom-right right-angle bend, and keep your speed down going around the sharp right leading into the hairpin at the course's centre.

4 You need to drift around the hairpin's 45-degree bends with just enough acceleration. If you pump the gas too much as you're cornering you zoom off into the rough.

5 Like the right-hand straight, the final stretch on the left has a narrow section, so keep mid-lane. In keeping with its counterpart, the sea often washes away the sides.

» [PC] *Micro Machines: World Series* has four-player local multiplayer, and even more simultaneous vehicles in online races.

"IT WAS AN INTERESTING CHALLENGE WORKING OUT HOW TO GET THE CARS [IN WORLD SERIES] TO WORK WELL IN A BATTLE-ARENA ENVIRONMENT"

COLIN NICHOLLS

NES original's co-creator Paul Perrott left the games industry behind long ago, but he still meets fans of his work decades later. "It was my first job, which was really super cool, but then I moved on," Paul says on a bittersweet note. "I haven't played it since it came out. But what was interesting about it for me is that it changed the paradigm of the genre, because the way you'd lose in multiplayer was by slipping off the screen. I think that still stands up. I meet kids now, 18 or 19 year olds, who actually know what *Micro Machines* is, which I'm blown away by! So I guess it's entered into some kind of historical hall of notoriety." ★

TOYCHEST TOUR GUIDE: FUNNY FARM

MICRO MACHINES: MILITARY

1 Get some shots in early, but bear in mind that ammo makes the racers spin on the spot. So don't drive into them, or they'll course correct and speed off ahead of you.

2 Steer clear of the dirty ponds to the right – you could lose a tank in one of those! Ignore the time-saving path between them, as you get penalised for taking it.

3 Drift around the first two bends, which tanks are remarkably good at. Try to zigzag a little, just in case someone tries to blow-off your rear end with their weapon attack.

4 Speed down the snaking s-bends, sticking as close as possible to the bales of straw. But be warned, if you hit one you'll practically come to a dead stop, so don't do that.

5 Stay slightly off course, just under the bales at the bottom of the track. This puts you in position to take the bottom-right corner that follows as tightly as possible.

THE STORY OF SONIC ORIGINS

BEFORE CREATING SONIC MANIA, SOME OF ITS DEVELOPERS PROVED THEIR SKILLS WITH REMASTERS OF THE CLASSIC MEGA DRIVE GAMES. NOW COLLECTED AND ENHANCED, WITH A BRAND-NEW PORT OF SONIC 3 & KNUCKLES TO BOOT, SIMON THOMLEY EXPLAINS WHAT WENT INTO MAKING THE LATEST AND POSSIBLY GREATEST SONIC COMPILATION

WORDS BY NICK THORPE

When it comes to making back catalogue products widely and easily available, few companies in gaming do as good a job as Sega. This consistency does have an ironic side effect though – where other companies draw praise for bringing back games which have spent decades in the vault, Mega Drive games are so easy to pick up that Sega has actually drawn criticism for the frequency with which it reissues them. In fact, we'd bet a few of you are wondering why you should be excited for a new *Sonic* compilation, especially if there's a copy of *Sonic Jam* or *Sonic Mega Collection* sitting on your shelves.

So, what does *Sonic Origins* offer that other *Sonic* compilations don't already have? As it turns out, quite a bit. For a start, none of the games are emulated, instead ported using the Retro Engine created by long-term Sonic fan Christian Whitehead, known in the community as The Taxman. Why does that matter? We asked Simon Thomley, who is well known to fans as Stealth, the author of projects including the SonED level-editing utility and the *Knuckles In Sonic 1* mod, as well as the leader of the *Sonic Megamix* mod team. Now leading Headcannon Games, he was a programmer on some of the past remaster projects, *Sonic Mania* and now *Sonic Origins*.

"A good emulator can easily trump a bad port job, but if you have access to people with the right talent and motivation, they may be able to create something very accurate to the original," Simon tells us. "A version built for modern hardware can also provide portable and more-easily maintainable code, which can make it easier to add features that didn't exist or were even impossible on the original platform." Long-term fans will be well aware of the engine's potential thanks to its use in the mobile remasters of *Sonic CD*, *Sonic The Hedgehog* and *Sonic The Hedgehog 2*. These offered 16:9 widescreen support in all three games, new characters and moves, and even improved performance and new stages.

While that port of *Sonic CD* eventually made its way to more traditional platforms, this is the first time the other two have been available on consoles and PC. *Sonic Origins* offers updated versions of those remasters, now incorporating the Drop Dash move from *Sonic Mania* and a new Mirror mode, as well as the Anniversary mode. This gives players infinite lives and the ability to collect coins, which are used to unlock museum content and retry failed special stages.

Sonic Origins also includes a brand-new remaster of *Sonic 3 & Knuckles*, which is arguably the best feature of all. This compilation marks the first time since 2011 that Sega has reissued the fan-favourite game, with many speculating that this odd state of affairs was due to legal issues arising from *Sonic 3*'s inclusion of music composed by Michael Jackson's songwriters. Regardless of any behind-the-scenes wrangling, fans will doubtless be thrilled to see the return of what is arguably the greatest *Sonic* game. ▶

» [PC] *Sonic 3 & Knuckles* is back for the first time in years, and now it is in widescreen.

» [PC] Additional modes like Boss Rush and the Blue Spheres minigame are available too.

» [PC] You'll notice the extra life on top of the loop has been replaced with a coin monitor.

» [PC] If you prefer limited lives and 4:3 gameplay, Classic mode is there for you.

» [PC] All games take advantage of modern hardware for 60fps gameplay and save-game support.

» Simon Thomley, independent game developer, Headcannon.

» [iOS] The introduction of a 16:9 display in the remaster resulted in some subtle gameplay changes.

» [iOS] Readers who know the first game inside out will recognise this as a new area.

SONIC THE HEDGEHOG

THE HEDGEHOG'S FIRST OUTING MIGHT BE A MULTI-MILLION SELLING PHENOMENON, BUT THAT DOESN'T MEAN IT COULDN'T BENEFIT FROM A LITTLE SPRUCING UP. HERE'S HOW SOME OF THE INEVITABLE EARLY INSTALMENT WEIRDNESS WAS IRONED OUT

So much has been made of Sonic's commercial and cultural importance as a character that it's easy to forget that *Sonic The Hedgehog* was a revolutionary game. "The bright, surrealistic visuals certainly caught my attention when I first saw it 31 years ago, but it was the speed and physics-based gameplay that had me hooked," says Simon. "There was something special about the team that came together to make this game that not only launched this sort of experimental concept into a massively successful franchise, but also helped *Sonic 1* remain a solid entry to this day. My admiration for them and what they had done is what truly began me on my career path." Indeed, if you weren't fortunate enough to experience the game in the early Nineties, it can be hard to appreciate the impact of seemingly simple additions such as the natural slopes and curves in level designs.

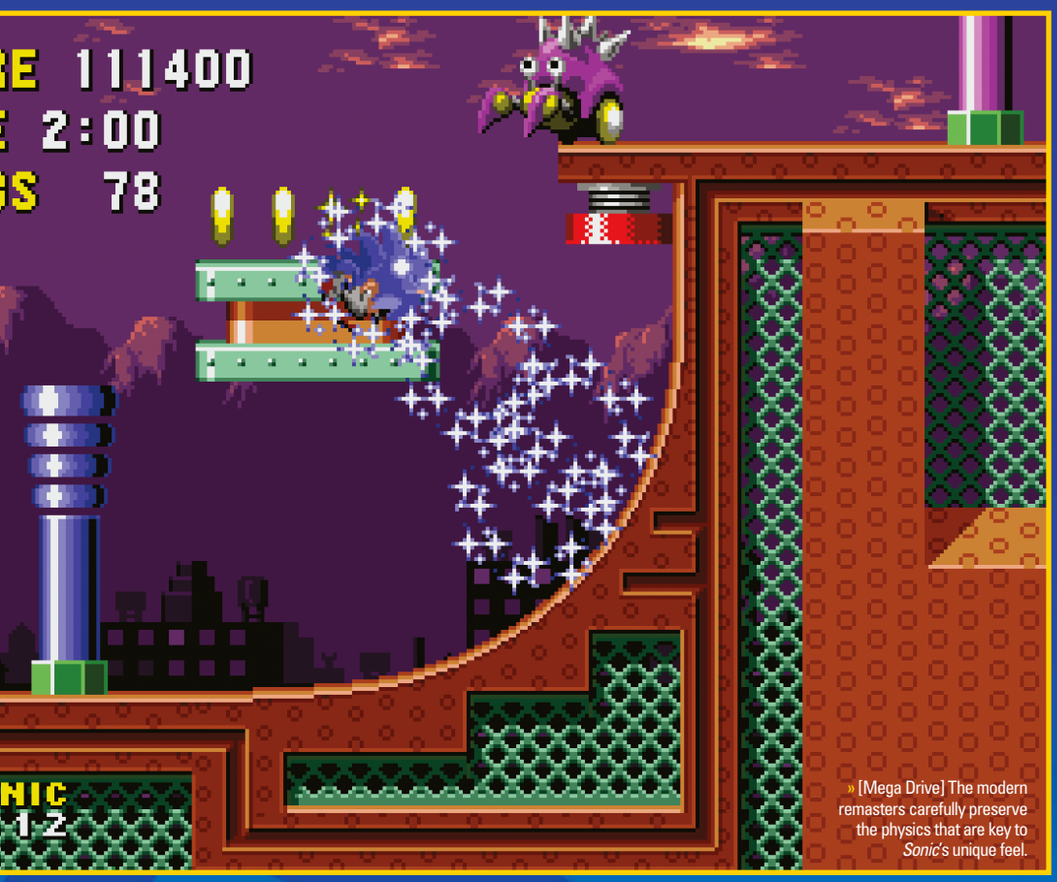
Removed from that original context and seen as part of a complete body of work, the original game can seem a bit plain and sometimes difficult. Players who started with the later games often struggle with Sonic's debut due to the lack of the Spin Dash move, and that's something that many later releases have sought to address, *Sonic Origins* included. "Many issues come from the relative difficulty in gaining speed to traverse curves and dodge hazards," says Simon. "The Spin Dash will give less-experienced players a quick boost to speed around obstacles and away from hazards. In *Origins*, the Drop Dash is an even zippier and [more] stylish option available when playing as Sonic."

Adding Tails and Knuckles was another way in which *Sonic 1*'s remaster attempts to bridge the gap between the games, and doing so necessitated a fair amount of extra work for Simon and his team. "The two most important conditions for including them were that Tails and Knuckles behave exactly as they should, and in doing so, they don't find or create any issues. That's why we combed the entire game using a special utility that was created to make the many necessary changes to each level's collision," Simon explains to us. "There was a lot of terrain that Sonic couldn't even touch in the original version without cheating, so these areas didn't need to be filled in completely with collision or even graphics. Since Tails and Knuckles could reach these places, though, we added or modified any solidity as needed, and even cleaned up some tile graphics and added alternate paths or bonus rooms to empty spaces where Sonic would never notice the difference."

Some physics changes were also made to bring the experience in-line with later games. For example, in the original release, Sonic has

» [iOS] Tails can easily fly to a route that normally requires an obscure secret to access.

» [iOS] Modern hardware allows for the special stages to rotate far more smoothly in the remaster.



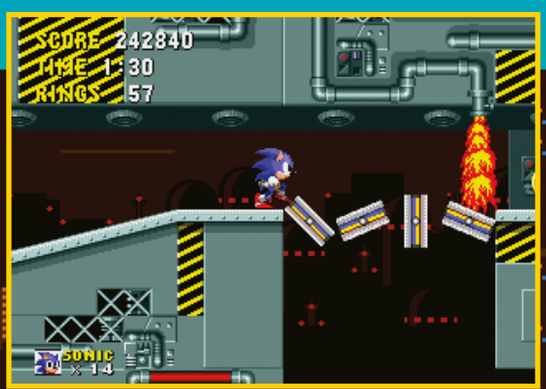
» [Mega Drive] The modern remasters carefully preserve the physics that are key to *Sonic*'s unique feel.

a speed cap that doesn't exist in later games. "The difference in physics is primarily a quirk in the original game's input programming that, in short, seems to have been unintentional," Simon tells us. "With Sega's blessing, we omitted this 'speed cap' from the remade version, though there is still a hidden menu command to enable it if you like!" Likewise, in the Mega Drive original, spikes can repeatedly damage Sonic without temporary invincibility kicking in. "Placement and the game's code indicate that the double-hit was intentional, but later games used spikes in a different way that, in retrospect, made this behaviour seem inconsistent," says Simon. "Players will certainly have an easier time navigating them with the updated behaviour, though, and the double-hit can still be re-enabled by a hidden command too!"

While many players will appreciate how widescreen display shows threats slightly earlier, implementing it required some careful consideration by the team. "The fixed-screen boss arenas certainly presented a challenge in updating the games for 16:9. Our goal was to preserve the intent of the encounter in the least intrusive way," recalls Simon about the challenge. "For the Green Hill boss, the natural environment didn't lend well to artificial barriers, so we adjusted the distance between platforms and the speed of the boss in a way that preserved its timing with the least impact on gameplay. Conversely, leaving empty ledges around or even adding more blocks to the Spring Yard Zone encounter would have had a major impact on its difficulty, so we took advantage of the artificial terrain by adding an extending mechanical barrier."

Now that it behaves a lot more like its sequels, we would be unsurprised if *Sonic Origins* results in a new appreciation for Sonic's first outing. ▶

» [Mega Drive] Breakable walls will be easier to get through thanks to the Spin Dash and Drop Dash.



» [Mega Drive] Anniversary mode's infinite lives will be appreciated by players who struggle with tricky sections like this.

GO WITH THE FLOW

INDIE DEVELOPER JAY X TRENT EXPLAINS WHAT HIS PLATFORM GAMES PICKED UP FROM SONIC'S ORIGINAL OUTING

Like many a young Sonic fan in the early Nineties, Jay's first exposure to Sonic came through Sega's slick advertising campaign. "There was this advertisement for *Sonic The Hedgehog* that had game footage of Sonic bouncing off crab Badniks in Spring Yard Zone, parallel-edited to footage of a ninja backflipping around a real-life city and it all looked so *cool*. I knew I needed to play it." That visual appeal carried over when they finally got to enjoy the game, too. "Immediately I was taken back by how *strange* everything was; the surreal pop-art visuals of Green Hill Zone especially. The way it looked and sounded, even stuff like what my ten-year-old self thought was the Pringles mascot on the end-of-level signposts, this game was a few shades weirder than the *Wonder Boys* and *Alex Kidds* I'd been used to before then."

For Jay, the original game remains the best of the bunch. "It's still a really good platform game at heart; one in which the character *can* run fast, as opposed to the quick change into a *speed-focused* platformer soon thereafter. *Sonic* wasn't afraid to take the pace down a few notches to do some good, honest, traditional platforming – where later games, though I still love those too, felt the need to litter most levels with roller-coaster sections, led into with a horizontal spring or other speed-boost gimmick."

That level-design philosophy has greatly influenced Jay's own platform games, too. "I've developed such a love for flow-state platforming, it's evident in my first Steam release, *Quickly, Quackley!* As a platform game in which each level is set to a strict 13-second time limit, designing level layouts that feel *great* to get a good flowing route was high priority. Moving forward, this approach is also seen to a less-overt degree in my upcoming hand-drawn *NekoNecro*. Cheekily, there's even a nod to that crab Badnik bounce from the old *Sonic* TV advert in there somewhere!"

» [PC] Distinctive art attracted Jay to *Sonic*, and is a key feature of their forthcoming *NekoNecro*.

SONIC THE HEDGEHOG 2

AS ARGUABLY THE MOST POPULAR OF THE MEGA DRIVE SONIC GAMES, SONIC 2 DOESN'T NEED TOO MUCH TWEAKING, BUT THIS REMASTERED VERSION INCLUDES THE ONLY OFFICIAL VERSION OF AN INFAMOUS LOST LEVEL

As great as *Sonic The Hedgehog* was, it's the sequel and its enormous hype campaign that arguably did the most to shape the perception of the series amongst the wider public. "*Sonic 2* had many qualities that made it stand out among the Mega Drive originals," says Simon. "Firstly, it was the longest of the individual games by zone count. It was the first to introduce a partner character (Tails!), the first to introduce Super Sonic, and the first to contain both co-operative and competition modes. Specifically, regarding the competition mode, this was arguably the best in the series. Other factors include *Sonic 2*'s stint as a pack-in game with the model 2 Mega Drive, and the enormous mystery surrounding it and its lost zones."

The topic of lost zones highlights a funny thing about *Sonic 2*. The Mega Drive game may feel like a more 'complete' *Sonic* experience because it already has the Spin Dash and Tails, and you can get Knuckles into it via *Sonic & Knuckles*. As a result, the kind of additions that had defined the *Sonic CD* and *Sonic 1* remasters weren't possible. But the original game had a messy development process which resulted in plenty of unused elements, most notoriously the Hidden Palace Zone. "There were several concepts that didn't make the cut, but Hidden Palace was the subject of schoolyard rumours and later discourse on the internet," recalls Simon. "Entire websites were dedicated to information gleaned from magazine prints, theories and researching the game itself. I don't think I've ever seen such intense interest in the development of any one other game!"

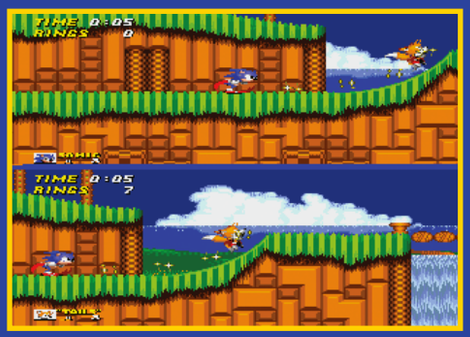
Hidden Palace Zone was hardly the only cut stage to draw interest from Sonic's many fans – others include a desert stage mocked up for a magazine advert, the unfortunately named Genocide City Zone and Wood Zone, a barely playable level found in prototypes of the game. What made Hidden Palace Zone different from those other cut stages was that remnants of it had scraped into the final game, albeit only as a title card and a garbled mess of deleted assets that could be accessed via cheat devices. But the prototype versions of *Sonic 2* that have surfaced over the years revealed it to be the most developed of the unused stages.

The available assets, combined with plenty of evidence of interest in the stage, allowed the team to successfully pitch the

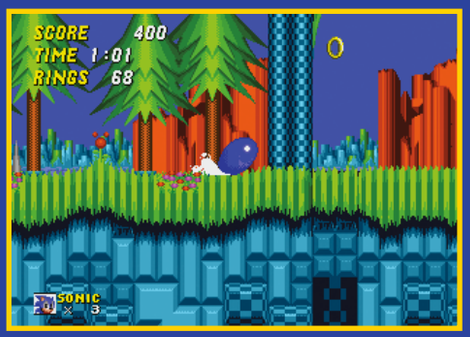
» [Android] Though most of the graphics here existed in the prototype, the water spout gimmick was newly implemented.

» [Android] Here's the Hidden Palace Zone boss, a brand-new creation for the remastered *Sonic 2*

» [Mega Drive] Much of *Sonic 2*'s iconography is still in use today, like the Death Egg Robot here.



» [Mega Drive] *Sonic 2*'s competition mode isn't just about going fast – it's about grabbing rings and items too.



» [Mega Drive] The Spin Dash is a crucial addition to the series, and it made its debut in *Sonic 2*

» [iOS] The *Sonic 2* special stages also benefit from smoother performance thanks to modern technology.

concept of completing Hidden Palace Zone as a bonus stage for the mobile remaster. How did that come about? "The success of *Sonic CD* and the overwhelmingly positive reception of *Sonic 1*'s bonus features certainly helped! Basically, we explained the fan fascination with Hidden Palace Zone and how a completed version would make for a very popular bonus feature for *Sonic 2*," Simon explains. "Iizuka-san agreed to let us try building it into something complete, and what we ended up with seemed to address the 'flow' concerns raised during *Sonic 2*'s original development."

Plenty of graphical assets were available for the stage from the prototypes. However, the level layout was never fully completed and the enemies within were fairly simplistic, and there was no evidence of a boss encounter for the stage. As a result, the team still had much to do to turn it into a finished level. "Aside from the layout and the boss, the Jellygnite enemy and basically all the gimmicks are also brand-new," Simon tells us. "There were only a small number of tiles added to create loops, and the Redz enemy was given the ability to breathe fire." Whether you're an old hand or a newcomer, the addition of a completed Hidden Palace Zone ensures that the remastered *Sonic 2* must be played.

Having already had its level design tweaked for more mobile characters once via *Sonic & Knuckles*, the remaster simply didn't need as many adjustments. "*Sonic 2* provided fewer opportunities for non-invasive additions, but there are a few," Simon teases. "See if you can find them!" Other nice additions included a Time Attack mode that allows you to record your fastest times and a Boss Attack mode which lined you up against all of Robotnik's deadliest machines. They might seem minor, but the team already added an extra stage to one of the greatest platform games of all time – what more could you ask for? ▶

RED HOT SEQUEL

YOUTUBER REDHOTSONIC EXPLAINS WHY SONIC'S SECOND OUTING IS HIS FAVOURITE

Long before he started making videos about Sonic on YouTube (www.youtube.com/c/redhotsonic), it was a shopping bag in the possession of a stranger that caught the attention of a young redhotsonic. "I was so mesmerised, the bloke there was so kind that he actually swapped this Sonic bag for another bag that my mum had," he recalls. "I got *Sonic 2* for Christmas 1992 and I played the heck out of it. I think I preferred it over *Sonic 1* because I found it easier. That's probably why it's my favourite out of the classics, I just played it the most."

Sonic's new Spin Dash move was a key part of the fun factor. "I don't think anyone can live without it now, it's a fundamental part of Sonic," he says. "It brings to the table what Sega were promising – *Sonic* is all about speed and blast processing. I think that was one of the best things they've ever added to the *Sonic* series." By comparison, redhotsonic feels that without player-controlled flight, Tails wasn't quite as crucial. "He helps along with the story, especially when it gets to like the Wing Fortress and Sky Chase, Death Egg and the cutscenes. But otherwise he's just a pain in the bottom, especially in special stages, that I think we can all agree on," he says, before reconsidering. "He did bring two-player to the table, so maybe that's not fair."

However, the best memory was the surprise that awaited when all seven Chaos Emeralds were collected during a gaming session with his mum. "We both slowly turned our heads looking at each other, our jaws had dropped, like, 'Super Sonic!'" he recalls. "We couldn't actually figure out how to become Super Sonic until I actually turned into him, I think in Wing Fortress. So I only got to use him once for the very first time!"

» Redhotsonic is known for detailed explanations and comparisons of how fan projects run on real hardware.

» [Xbox 360] Using Tails in the remaster often makes finding your targets a much easier task.

» [Xbox 360] The 16:9 display makes the race against Metal Sonic less of a memory test.

» [Mega-CD] Newcomers to *Sonic CD* are often bewildered by seeing rings embedded in walls.

SONIC CD

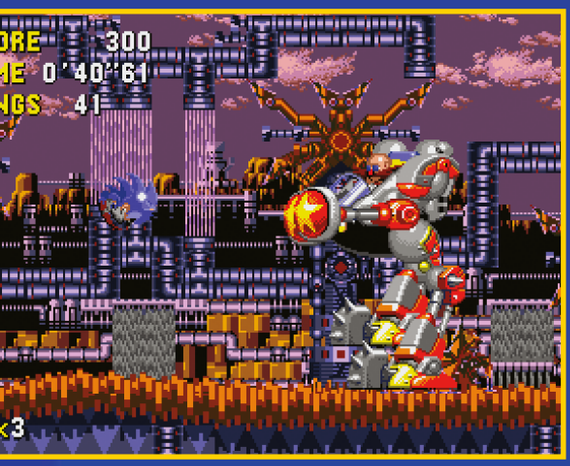
SONIC ORIGINS AND SONIC MANIA WOULDN'T EXIST WITHOUT THIS MEGA-CD ODDITY, A FORMERLY HARD-TO-ACQUIRE GAME WHICH INSPIRED CHRISTIAN WHITEHEAD TO DEVELOP THE RETRO ENGINE

Though it arrived ten months after the release of *Sonic 2*, Sonic's only Mega-CD outing felt much more like a parallel evolution of the original game than it did a second sequel. Shared ideas such as pinball-themed stages and a robotic Sonic were explored in totally different ways, the Spin Dash worked differently, and Tails was nowhere to be found. But by far the biggest difference was in the structure of the game, as *Sonic CD*'s best ending requires players to find a way back to the past in each stage, in order to find and destroy Robotnik's machinery to create a good future. Where *Sonic 2*'s stages often felt like obstacle courses that encouraged the player to get to the goal as quickly as possible, *Sonic CD*'s stages invited more exploration and backtracking.

"I think the time-travel aspect of *Sonic CD* was a great way to introduce an element of exploration," says Simon. "There might be a few who call it optional, but personally I won't settle for less than the 'perfect' ending of collecting all the Time Stones and destroying every robot generator and Metal Sonic hologram. It certainly increases the difficulty, though! I'm not sure there are many other ways to make such a thing feel rewarding for Sonic but hunting down the Chaos Emeralds in *Sonic 1* and *2* for Game Gear/Master System was a nice compromise for lack of special stages. I'd say, though, that tracking down Star Posts and Special Rings in *Sonic 2* and *Sonic 3 & Knuckles* for Mega Drive, respectively, do lend to some light exploration. There's even a 'Perfect Bonus' for collecting all rings within a level in *Sonic 2*, although it's physically impossible on some. But, no, none of them are on the level of *Sonic CD*."

Sonic CD was the first of the Retro Engine *Sonic* games. In an interview with TouchArcade, Christian Whitehead stated that development began in March 2008, and that the iPhone version of the engine took just a week to set up. A pitch was made in the summer of 2009, ultimately leading to the project being picked up. "I didn't have direct, official involvement with *Sonic CD*, but I did do a lot of reverse-engineering and documentation work that allowed Christian to make the faithful recreation of Palmtree Panic and the Special Stage that won the project a green light," Simon explains. "I provided similar support at times throughout development, but I was never given access to the RSDK version of the game." The project eventually saw release in 2011, arriving on Android and iOS as well as the Xbox 360, PlayStation 3 and PC.

As much as it was designed to be an excellent game, *Sonic CD* was also intended to show off what CD-ROM technology could bring to the series. CD audio was used to deliver an excellent soundtrack, and the remaster offered you the choice between Naofumi Hataya and Masafumi Ogata's original Japanese tunes or the American soundtrack by Spencer Nilsen and David Young. FMV intro and ending sequences were used for the first time, and appear at a far higher quality than they did on the Mega-CD. The special stages, in which Sonic had to run around a 3D environment destroying UFOs, used the rotation and



» [Mega-CD] The original Japanese soundtrack features some classic rave tracks for the bad-future stages.

scaling capabilities of the new hardware to great effect. Technology moves on though, and *Sonic Origins* makes the Special Stage experience that much nicer with a major performance boost.

"Although I wasn't terribly bothered by the choppiness of the Mega-CD original, the higher framerate in the remake is a definite improvement. Technical limitations of the Mega Drive prevented the 3D effect from updating any more frequently than 20fps, but modern players will expect more out of their current hardware," says Simon. "Updating the Special Stage to run at the same 60fps as the rest of the game seems only natural and will help avoid a feeling of dissonance for anyone used to higher performance when switching between gameplay modes. Veteran players will certainly notice the difference too."

Sonic CD is one of the less frequently reissued Sonic games, so its inclusion in *Sonic Origins* with features like the modern Spin Dash and Tails is most welcome. It can be a bit divisive, but for the first time in a long time, console owners will have the opportunity to make their own minds up. ▶

» [Mega-CD] It's a bit easier to smash UFOs in the remaster due to a higher framerate and smoother scaling.

BURIED TREASURES

FANS ONCE CLAMOURED FOR A PORT OF SONIC CD. WHICH GAMES DO THEY WANT NEXT?

SEGASONIC BROS

ARCADE, 1992

■ It's not the best puzzle game ever, which is why it never received a full release after being location tested, but *SegaSonic Bros* is an interesting piece of history. Sonic fans would definitely value an official release as a result.

KNUCKLES' CHAOTIX

32X, 1995

■ The only solo adventure starring Sonic's feisty rival is an experimental platformer in which two characters are tethered together in elastic fashion. It's never been ported before, and would be welcomed as it has become pricey on the secondary market.

SEGASONIC THE HEDGEHOG

ARCADE, 1993

■ This isometric arcade game is more about running away from things than platforming, but it's a real rarity and fans are desperate to see a home port. Adjusting the trackball control scheme for a pad is probably the sticking point.

SONIC POCKET ADVENTURE

NEO GEO POCKET COLOR, 1999

■ Although it's mostly a remix of the Mega Drive games, the many hidden puzzle pieces are a very compelling reason to thoroughly explore every well-designed stage. We're hoping SNK adds it to the Neo Geo Pocket Color Selection range.

SONIC RUSH

DS, 2005

■ With the 3DS having been discontinued in 2020, *Sonic Rush* has become arguably the best *Sonic* game that isn't playable on any currently available platform. Compensating for the lack of the console's unique features would be tough, but definitely worthwhile.

SONIC 3 & KNUCKLES

A FAN FAVOURITE THAT HAS BEEN ABSENT FOR OVER A DECADE, SONIC 3 & KNUCKLES IS FINALLY GETTING THE RETRO ENGINE REMASTER TREATMENT IN SONIC ORIGINS. HOW DID THE MUCH-REQUESTED PROJECT FINALLY GET THE GO AHEAD?

When you go back and read contemporary coverage of *Sonic 3*, it's plain to see that a certain sense of fatigue had started to accompany the rapid growth of the *Sonic* series. *Mean Machines Sega* said it would be "a tricky game for Sega to pull off". *Sega Power* was "sceptical", fearing a "tired reworking" of the formula, while *CVG*'s Deniz Ahmet admitted that he was "all set to be highly critical of *Sonic 3* after hearing that it was more of the same". All three magazines ultimately awarded the game scores of 90% or more. *Sega Pro* even alleged that *Sonic 3* was "a game Sega admits is not supposed to be the mass-market success *Sonic 2* was", but awarded the game 87% in spite of its hefty £59.99 price tag.

That goes a long way to encapsulating the odd position *Sonic 3* is in. Critics responded well because the game did meaningfully improve on its predecessors, with longer and more elaborate stages, a greater number of boss fights with more interesting designs, and two new bonus stages. But while it was a sales hit, it wasn't a success on the scale of either of the first two games. There are a few ways to explain that – you could talk about the high price, the fact that it wasn't as commonly bundled with hardware as the previous games, or even point to that sense of fatigue with the series. In any case, the result is that while *Sonic 2* is the iconic game, *Sonic 3* is the game that the hardcore fans are more likely to point to as the best of the bunch. Or more accurately, it's half of that game.

Mean Machines Sega's review of *Sonic 3* mentioned the existence of "a deluxe 24-meg edition of the game, with extra levels and enhanced play". That never quite came to pass, but the magazine also hinted at the potential for "an upgrade for the 16-meg edition", which likely sounds much more familiar to you as it describes *Sonic & Knuckles*. "*Sonic 3* was famously split into two parts that could be physically connected to create the complete game, with the same 'lock-on technology' having the ability to bring Knuckles into *Sonic 2* and providing a nigh infinite number of Blue Spheres minigame stages as well as spawning the '& Knuckles' meme that was embraced by even Sega themselves," says Simon. So where *Sonic 3* was more than just more of the same, *Sonic & Knuckles* was precisely more of the same because it was the second half of the game as planned.

In some ways, the split actually enhanced the experience at the time, as ensuring that Knuckles wasn't a playable character from the start arguably fed into the hype for *Sonic & Knuckles*. It was fun to play with his unique abilities to glide, climb walls and smash through otherwise unbreakable obstacles, but it felt like Sega had been extremely clever when you took him back into *Sonic 3* and discovered that unique routes had been planned for him right from the start. However, it's the combined experience you'll be getting in *Sonic Origins*. "Sega feels that it's best to present only the full game as '*Sonic 3 & Knuckles*' in this collection because it best

» [Mega Drive] Sonic fights this boss in *Sonic 3*, but it's exclusive to Knuckles in the combined game.

» [Mega Drive] Reversed gravity was one of the trickier features for the Headcannon team to implement.

» [Mega Drive] Unique stage gimmicks like the ghosts in Sandopolis Zone set *Sonic 3 & Knuckles* apart.

» The *Sonic 3 & Knuckles* iOS proof of concept was only shown via YouTube.

» [Mega Drive] Objects passing through vertically wrapping areas were also tricky for the team.

» [Mega Drive] *Sonic 3* actually lets you control Tails in flight, unlike *Sonic 2*

represents, as the title suggests, Sonic's origins," Simon explains. It's probably for the best, given that the surprise factor no longer exists.

The combined game is one Simon holds in high regard, as you might expect from a long-term fan. "Fittingly, as it's the newest, *Sonic 3 & Knuckles* is the pinnacle of 2D Mega Drive Sonic. The gameplay had been highly refined and the graphic and sound design were top notch. Tails could fly freely; Knuckles was introduced as Sonic's rival and a new playable character," he says. "This is all in addition to the massive well-made levels, menacing bosses (and minibosses), and many integrated story event scenes that made the whole thing feel like an epic adventure! For some, it's also because the full, combined game introduced the Super Emeralds and Hyper Sonic, which do, indeed, return in this version! There are so many things that make *Sonic 3 & Knuckles* super memorable, but the most important is that it's just *fun*!" ▶

» [Mega Drive] Elemental shields gave Sonic extra abilities, and all characters gain total invulnerability against matching hazards.

ENGINE ROOM

SIMON THOMLEY EXPLAINS THE EVOLUTION OF THE RETRO ENGINE

Although *Sonic Origins* has been built using the Retro Engine, the engine itself has existed since 2008 and evolved plenty in the years since then. "*Sonic CD* was built using Retro Engine v3, while *Sonic 1, 2* and the original proof of concept for *Sonic 3 & Knuckles* were built in v4," reveals Simon. "The editing tools were more primitive, and game code was written using a proprietary scripting language that was interpreted at runtime." From there, the team moved on from remastering old games to making a new one. "When it came time to work on *Sonic Mania*, a new v5 Retro Engine was created that used a more C-like script that was compiled into platform-native code. This greatly simplified the workflow and allowed us to do much more fancy things than were possible with v4," says Simon.

"When we were asked to remake *Sonic 3 & Knuckles*, we had conversations with Sega that led to the conclusion that the best move for the collection would be to use Retro Engine once again for consistency. I discussed this with Christian [Whitehead] as well, which ultimately led to the creation of 'Retro Engine v5 Ultimate'. This is essentially the same v5 as was used for *Sonic Mania*, but the intermediate scripting was dropped in favour of coding directly in C++ and modules for running v3 and v4 games were added to support the previous remakes. Rather than use v4 and the earlier proof of concept, *Sonic 3 & Knuckles* was built natively using C++ in this 'v5U'."

One thing Simon is keen to ensure is that the proper people receive credit for their work. "Retro Engine is not mine or ours. It was created by Christian and belongs to Evening Star," he clarifies. "Headcannon does have our own engine named Methyl, but it wasn't used this time around. Incidentally though, there were some aspects of *Sonic 3 & Knuckles* that weren't possible with Retro Engine as it was, which ultimately led to me being allowed to incorporate my own 'Path Tracer' movement and collision system into the game."

» [PS4] *Sonic Mania* was built on the same engine as the remasters, albeit a newer version.

KNUCKLE UP

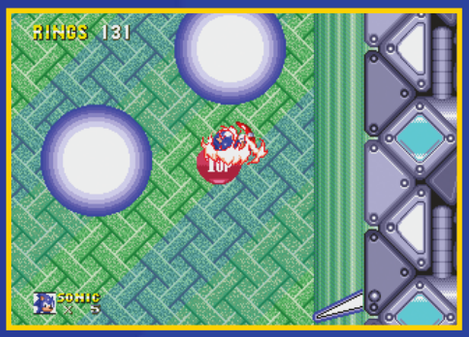
WHY FAITH JOHNSON FAVOURS THE FOURTH PART OF THE QUADRILOGY

You might well recognise Retro Faith, as she's known online, from her writing and videos or even her appearance in our own Collector's Corner section. Although she's a big fan of Sonic, Knuckles has been her favourite character ever since *Sonic 3*. "When I saw Knuckles, and I saw that red character with the dreadlocks and that music kicked in, something in me just went tick and I loved him," she recalls. "I loved the fact that he was a bad guy at first and he was a bit silly and was duped by Robotnik."

After becoming aware of the game through a *Sega Pro* preview, Faith got *Sonic & Knuckles* for Christmas 1994. "[It was] my most magical experience ever, I remember just playing it to death, completing it over and over again with Sonic and Knuckles, and just loving it." One memorable moment came when finishing the game with all of the Chaos Emeralds for the first time, and accessing the secret final stage. "I remember I just thought, 'Well that's the end of the game, I'll see the credits like I [always] have.' All of a sudden when it went 'dun-dun-duuun' I was like, 'What happened?!' I literally went, 'Oh my god,' and suddenly Super Sonic was flying and I didn't know what was happening."

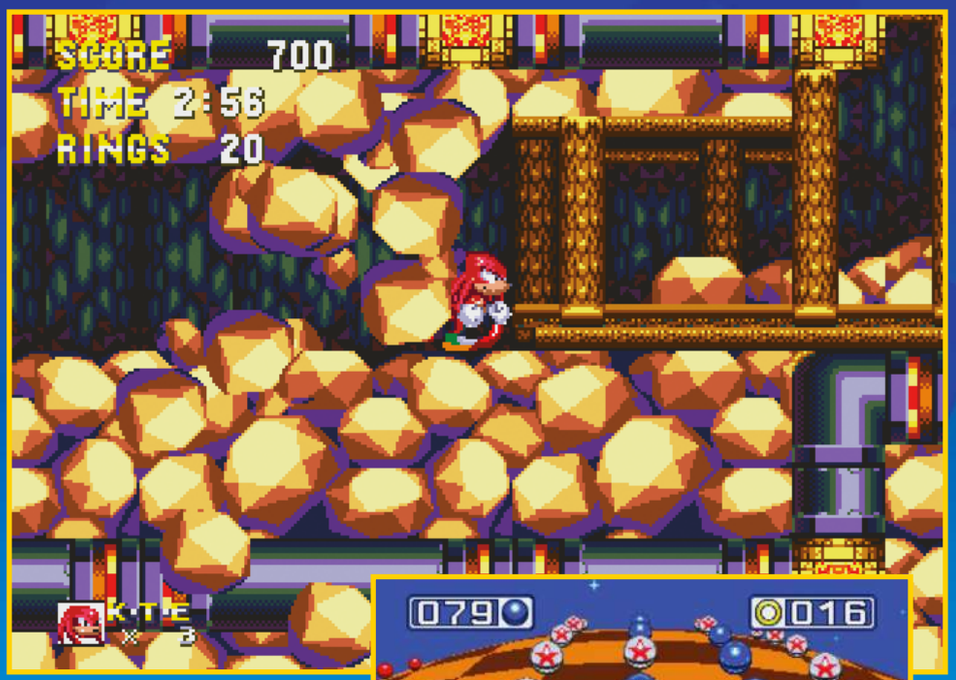
When Faith later got to experience the game locked on with *Sonic 3*, the experience of playing older stages as Knuckles was a revelation. "All of a sudden, it dawns on you that Sega had been designing this whole thing from the start. And suddenly now it's like, 'Oh my god, I'm playing Act 2 of Angel Island, but I'm in a completely different zone.' What Sega did with that, and keeping it all under wraps a little bit as well for that whole year, was just incredible. I still think it's one of gaming's greatest achievements."

» Faith's love for *Sonic & Knuckles* is expressed in this customised Mega Drive and cartridge combo.



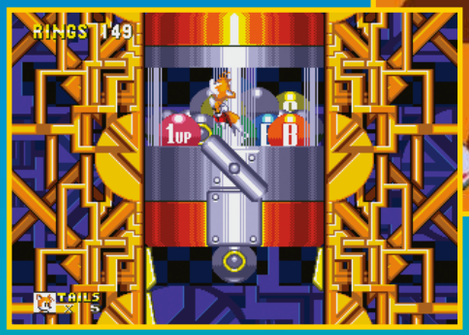
» [Mega Drive] This bonus stage in which Sonic orbits energy balls is hard to pick up.

» [Mega Drive] The Special Stage from *Sonic 1* meets Casino Night Zone in this bonus stage.



» [Mega Drive] Crashing through walls with Knuckles to reach new areas is very satisfying.

» [Mega Drive] *Sonic 3 & Knuckles* introduced the popular Blue Spheres special stage for collecting Chaos Emeralds.



» [Mega Drive] The capsule machine dispenses extra lives, rings and shields at random when the handle turns.

» [Mega Drive] *Sonic 3*'s boss fights were more imaginative and elaborate than those of prior games.

» [Mega Drive] This particular object seems to have caused Simon a bit of a headache.

» [Mega Drive] Tails isn't in *Sonic & Knuckles*, so can only access its stages in the combined game.

This was a game that both Simon and Christian Whitehead had wanted to remaster for mobile platforms in the same way as the other 16-bit games, and back in 2014 they spent months creating a proof of concept version of the game. This version featured Angel Island Zone and all four bonus stages, and a video was shown in October of that year to celebrate the 20th anniversary of *Sonic 3 & Knuckles*, despite the fact that Sega was not yet on board. Additional features mentioned at the time included full single-player versions of the competition stages, Time Attack and Boss Attack modes, as well as selectable game modes replicating the individual and combined games. An enhanced version of the Blue Spheres game was also on the cards, featuring green spheres requiring two passes to clear and pink teleportation spheres.

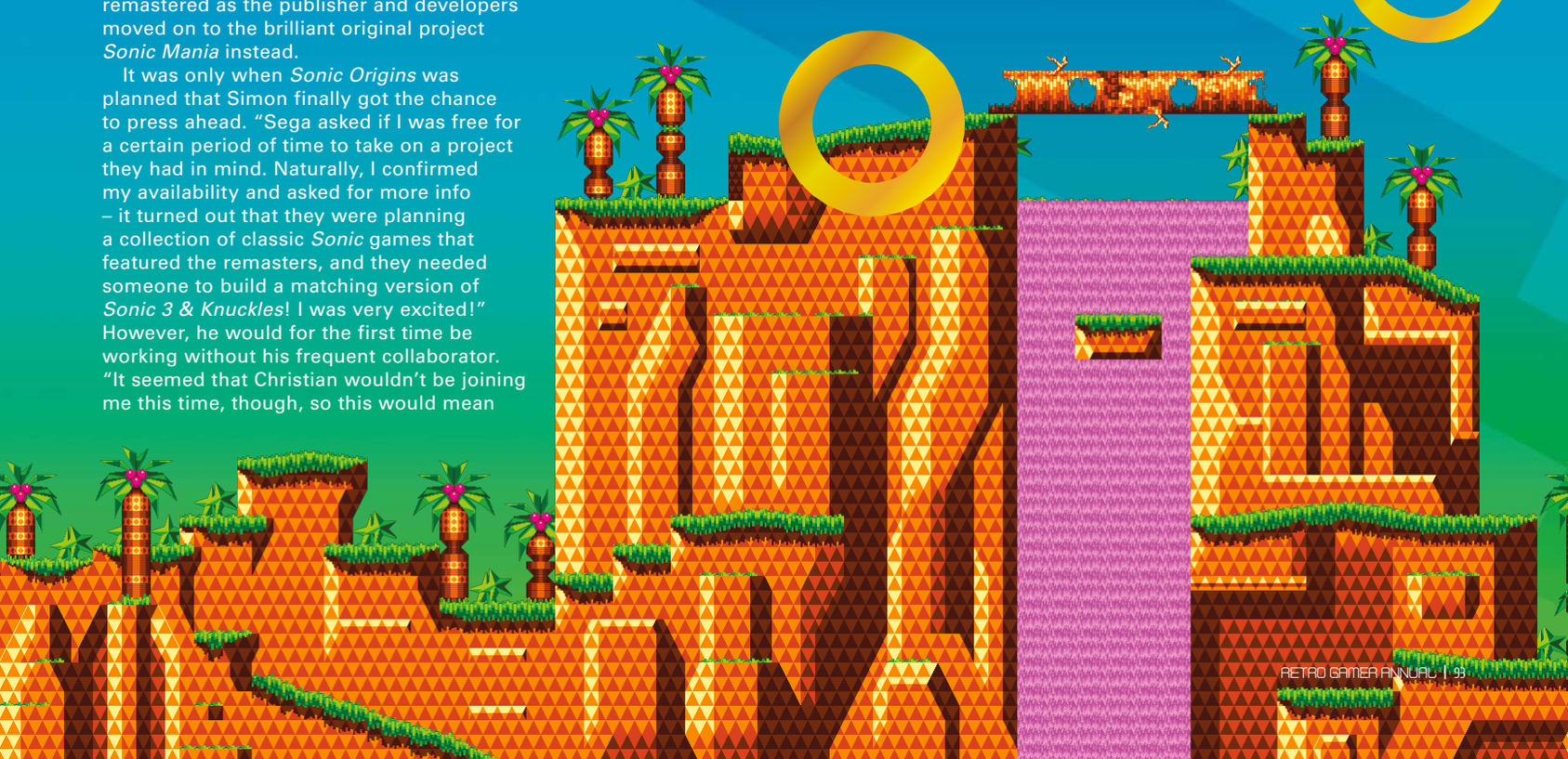
For reasons that were never made clear, Sega chose not to pursue the project at that time. A social-media campaign failed to convince the publisher to move forward, and for a time it looked as though *Sonic 3 & Knuckles* would never be remastered as the publisher and developers moved on to the brilliant original project *Sonic Mania* instead.

It was only when *Sonic Origins* was planned that Simon finally got the chance to press ahead. "Sega asked if I was free for a certain period of time to take on a project they had in mind. Naturally, I confirmed my availability and asked for more info – it turned out that they were planning a collection of classic *Sonic* games that featured the remasters, and they needed someone to build a matching version of *Sonic 3 & Knuckles*! I was very excited!" However, he would for the first time be working without his frequent collaborator. "It seemed that Christian wouldn't be joining me this time, though, so this would mean doing it without him. Fortunately, I had already been working with some other very talented people, and Sega was gracious enough to accept them as my team," he elaborates.

As a game so big that it needed to be split in two, it's no surprise that additional help was needed. "*Sonic 3 & Knuckles* is humongous, and with Christian out of the question, there's no way I could have rebuilt the entire thing from the ground up by myself in the given amount of time," says Simon. "This made it an easy decision to give four other people – Noah Hall, Derrek Harbold, Andy Collins and Elizabeth Ramirez – a chance at such high-profile work. In order, they were my two additional programmers, lead artist and tester, and what I feel I'd describe as 'asset wrangler'. My faith in them turned out to be well-placed, and I'm immensely proud of what we were able to accomplish together."

Having finally got the chance to complete the remaster he's wanted to do for the best part of a decade, we had to wonder how Simon felt it stacked up compared to the others. "I can't really speak for *CD*, but *1* and *2* were straightforward," he says. "*Sonic 3 & Knuckles* is by far the most complex of the group, though, so there were plenty of parts that proved challenging to integrate into Retro Engine, specifically! Moving floors and reverse gravity are a couple that spring to mind, as well as many objects that needed to interact with Y-axis wrapping. The ridable spinning top object in Marble Garden Zone..."

In attempting to make this the definitive version of the game, Simon's team and Sega have made a number of changes including new animations, extra effects, additional story transition scenes and more. "There were a lot of planned enhancements at the time a *Sonic 3 & Knuckles* remake was first pitched, and I'm happy to say that many of them have made it into *Origins* along with a few fresh ideas from the new team," Simon reveals. "Sonic's Drop Dash ability is a given, and the rest – well, see how many you can identify!" We've been doing just that since *Sonic Origin*'s release, but ultimately the enhancements are a nice bonus – with the opportunity to revisit Sonic's biggest 2D adventure having been so rare in recent times, we're just pleased to see it being made available to a whole new audience. ✱



SUPER-POWERED

30 GAMES THAT PUSHED THE LIMITS OF THE SNES

WORDS BY NICK THORPE AND DARRAN JONES

THE SNES IS UNDENIABLY A SUPERB CONSOLE, AND WITH HUNDREDS OF GAMES AVAILABLE THERE ARE PLENTY OF CLASSICS TO CHOOSE FROM. BUT WHICH GAMES REALLY MADE THE MOST OF THE HARDWARE AVAILABLE, AND HOW DID THEY DO IT? WE TAKE A LOOK AND FIND OUT

They say that all good things are worth waiting for, and Nintendo fans of the early Nineties knew that all too well – after all, *Super Mario Bros 3* was nearly three years old by the time it arrived on our shores. The SNES is undeniably a good thing, being the console that **Retro Gamer** readers voted as the greatest games system of all time back in 2018, and a long wait was inevitable – nearly a year and a half passed between the Japanese launch of the Super Famicom and the UK arrival of the SNES. That means that this year marks our 30th anniversary with the console.

To celebrate this anniversary, we're taking a look back at 30 games that really tested the SNES hardware on a technical level, and we've asked a variety of industry professionals what impressed them too. The popularity of the console meant that it was home to over 1,700 games, and the system's long life meant that developers had plenty of time to really explore the hardware and get the very best out of it. Over the years, Nintendo's machine had the chance to excel in just about every genre possible, and the variety of the games we've chosen here is testament to the breadth of its library.

To be clear, this list is also in no particular order, as all of the games deserve recognition without silly things like rankings getting in the way. We're also judging these games solely on their achievements with the SNES hardware – though there are certainly plenty of classics to be found in the list, these might not be the best games for the system, nor better than versions available for other platforms. However, all of them make impressive use of Nintendo's 16-bit hardware in some way, be it a graphical achievement, amazing audio or a feat of clever programming. So without further ado, let's take a look at the first game on the list.

STAR FOX

NINTENDO EAD/ARGONAUT • 1993

One of the interesting things about the SNES is that so many of the console's games didn't just reach the theoretical limits of the machine, but used additional technology in order to exceed them. The first cartridge with an added chip shipped when the SNES was just weeks old, but for the most part these weren't something that anyone made a big deal of – their effect wasn't seen to be transformative.

With the development of the Super FX chip, all of that changed. Argonaut's supplemental processor allowed for fast 3D polygonal graphics to be displayed on the SNES, and quickly became a marketing point on the games that used it. *Star Fox* was the first of them, and the rail shooter was enormously impressive – just about every foreground object was made of polygons, from giant walking robots to deadly tunnels, and of course the massive floating head of big baddie Andross.

Action games with filled polygons were still a relative rarity in arcades when *Star Fox* was released, with Namco's *Starblade* having only launched a year and a half prior. To have such a game running at home, on a console that wasn't even designed to handle it, felt like the future.

PILOTWINGS

NINTENDO EAD • 1990

As great as *F-Zero* was, it could be argued that *Pilotwings* provided a better earlier showcase of the marquee feature of the SNES, Mode 7. There's no two ways about it, flight disciplines like sky diving just give more natural opportunities to take advantage of a 3D plane than racing does. Interestingly, despite being built alongside the hardware *Pilotwings* became the first SNES game to use an enhancement chip, with the DSP-1 chip providing crucial mathematical support for the game's 3D calculations. The greater accuracy of a later bug-fixed version of the chip had an unintended consequence, causing the biplane to crash in attract mode.

MY SNES TECH PICK

"Super Mario Kart obviously impressed me with its terrific use of Mode 7. I still think it was as close to the perfect game you could get on the SNES. The Mode 7 screen seemed perfectly designed for short track racing like in Mario."

NICK JONES

Programmer, Alien 3, Earthworm Jim

ACTRAISER

QUINTET • 1990

One of the very earliest SNES games, *ActRaiser* combined city building and platform hack-and-slash action into a hugely compelling game, but it stands out for the brilliance of its audio in particular. If there was one man that could be relied upon to get the best from any sound chip in the late-Eighties and early Nineties, it was Yuzo Koshiro. He had already turned in iconic work on the PC-88 for Falcom's *Ys*, and did wonders with *The Revenge Of Shinobi* on the Mega Drive. *ActRaiser* was like nothing he'd ever done before, though. Using the S-SMP sound system's ability to play back digital samples, he created an orchestral sound that demonstrated just how capable the SNES was on the audio front. Go and listen to *Fillmore* or *Aitos* – those are top tier tunes on any system, we'd say.

STREET FIGHTER ALPHA 2

CAPCOM • 1996

It's fair to say that many people bought a SNES to play *Street Fighter II*, and the three versions of it sold 12.4 million copies. That goes a large way towards explaining Capcom's ambitious decision to create a conversion of *Street Fighter Alpha 2* for the ageing 16-bit machine, despite it being far better suited to the 32-bit consoles on which it was also released.

Naturally, this conversion involved some compromises. Some backgrounds were cut, audio quality took a hit and there was some evidence of slowdown, but it contained all the characters and moves of its arcade counterpart. Fitting all of that in required a comparatively large 32 megabit ROM, and even then the graphics data needed to be compressed by 50%, with the S-DD1 enhancement chip used to decompress it.

This version of *Street Fighter Alpha 2* isn't the one most gamers would choose to play today, but that doesn't mean that we should overlook what an achievement it was. There were plenty of people that had yet to upgrade to new machines back in 1996, and the effort the developers made to ensure that a respectable version of the game was available for those players is commendable.

MY SNES TECH PICK

"For me I'm going to choose Nintendo's late release, Yoshi's Island. It has a distinctive, unique style that doesn't ape its contemporaries and as a result it still manages to look fresh and vibrant today."

BILL HARBISON
Artist, Batman, Jurassic Park

TALES OF PHANTASIA

WOLF TEAM • 1995

Epic is a word that is overused when describing Japanese RPGs, but this entry in Namco's long-running series justifies it. Launching on a whopping 48 megabit cartridge, the game had plenty of space for unique areas, voice clips and more – you could easily spend dozens of hours on it and still fail to see everything it has to offer. The most impressive feat comes when you first start the game, though. The intro music is actually a full vocal song, which sounds like something straight out of an anime series and runs for almost two and a half minutes.

SOS

HUMAN ENTERTAINMENT • 1993

You might not feel that this platform adventure in a sinking ship looks all too special, although it does use Mode 7 extensively to show the vessel capsizing. The real trick here is the use of Mode 0. This offers four scrolling background layers, but carries a severe limitation that made it one of the console's more rarely used graphical modes – each tile is limited to a palette of four colours. Human Entertainment worked around this to create a cavernous boiler room, using the multiple layers to convey the illusion of depth very effectively in the game's final area.

LEMMINGS 2: THE TRIBES

DMA DESIGN • 1994

When you think of games that would tax a console, the *Lemmings* series might not be the first one that springs to mind. However, it is more challenging than you might think. One of the primary issues is that the SNES can struggle when pushing plenty of sprites, and can suffer from dropouts when too many sprites are displayed on the same line. The potential for graphical dropouts was solved by drawing the lemmings on a background layer instead of the sprite layer, with clever programming ensuring that the speed kept up.

While most SNES games would reuse tiles in VRAM, *Lemmings 2* put unique tiles in for each part of the scenery, even if the graphics were identical. This meant that as one piece of scenery was destroyed, the corresponding tile could be replaced with its new state without affecting the rest of the scene.

STREET RACER

VIDIO IMAGE • 1994

While *Super Mario Kart* was never truly knocked off its pedestal on the SNES, *Street Racer* gave it a damn good go with some nice alternative game modes, and it actually pulled off some astonishing technical feats. Firstly, there's the use of a DSP chip – or a lack thereof. Nintendo had frequently employed this for its own Mode 7 games, including *Super Mario Kart*. Vivid Image managed to do without this for its own racer.

You might think this would have limited the game's performance, but this was not the case. In fact, the development team managed to one-up the plumber by extending the split-screen action to four players. This used four squat rows because it was impossible to draw a two by two window layout while using Mode 7, but the result was still impressive.

SEIKEN DENSETSU 3

SQUARE • 1995

The sequel to *Secret Of Mana* remained a Japanese exclusive release until a translated version named *Trials Of Mana* arrived as part of the *Collection Of Mana* compilation in 2019. We're glad it finally got an official translation, as it had been an injustice that the game hadn't been accessible to more players – this action-based RPG is a true SNES classic.

Sometimes, it's hard to believe what you can do while working within a system's limitations. Apart from delivering a stellar soundtrack, which was a staple of Square games by this point in time, the game is one of the most beautiful of its era. The limitation of 16 colours per palette seems like absolutely nothing against the talent of the team's pixel artists, and the game would have looked perfectly at home amongst the 2D offerings of any of the next generation of consoles.

MY SNES TECH PICK

" One game stood out for me: Axelay. Konami conjured everything the SNES was capable of (and not sure if seriously capable of) all at once. Mode 7 insanity from the clouds and swooping alien craft in stage 1, through the stomping 'ED-209' boss and heat-hazy lava pools. It had a novel shooting mechanic and the game design was tight with unique challenges to contend with. Absolutely nothing was lazy or standard about Axelay. Hard to believe this was the console that strained to save Super R-Type from being a stop-motion shooter. "

PAUL DAVIES
Editor, Nintendo Magazine System

AXELAY

KONAMI • 1992

If you're looking for a classic SNES shoot-'em-up, this has you covered with a mixture of vertical and horizontal sections and a truly stiff challenge. Konami is a frequent contributor to this list as the developer was a master of 16-bit console hardware – here's what that expertise brought to *Axelay*.

DECEPTIVE DEPTH

Stages appeared to be more multi-layered than they actually were. Konami would use one background as the top layer and one as the bottom, then have the top layer briefly take over fully so that it could wipe the bottom background for use as a new, higher layer.

HORIZON CHASE

The game's vertically scrolling sections used clever distortion, shortening the image near the top of the screen to make it appear as though the background was constantly rolling over the horizon. Little else on the SNES looks quite like it – really, few other games on any system do.

COLOSSAL CREATIONS

Massive multi-jointed bosses that dominated the screen provided an impressive spectacle to end each stage. So many sprites were used that attacks had to use the old flickering trick, lest the console end up suffering from graphical dropouts by attempting to draw too many sprites per line.

MY SNES TECH PICK

"For me, it was Street Fighter II because Capcom had to squeeze all that content down from an arcade machine into a Super NES, but the end result was it played the same! (Indeed I was just as bad at playing it on SNES as I was the arcade machine.) Of course, I might have subconsciously only chosen that game because I paid over £90 to get a Japanese import of that cartridge at the time of release."

CHRIS SUTHERLAND
Head programmer, Donkey Kong Country

RPM RACING

SILICON & SYNAPSE • 1991

Most players will be more familiar with Silicon & Synapse as Blizzard, and likewise we'd wager that *Rock N' Roll Racing* will resonate with more of you than this isometric racing precursor. But *RPM Racing* did something that most SNES games, including its successor, didn't. While the vast majority of SNES games had a 256x224 screen resolution, RPM Racing used the console's high-resolution 512x448 interlaced mode which looked exceptionally sharp compared to the competition, and even managed to include split-screen multiplayer. Interestingly, the Japanese version of the game uses a lower resolution and adds more trackside scenery.

KIRBY'S DREAM LAND 3

HAL LABORATORY • 1997

Kirby games are not typically ones that you'd think of as being particularly technically taxing, but this one does some interesting things befitting of being the console's final North American release. For a start, the cartridge makes use of the SA-1 enhancement chip – a version of the 65C816 CPU that is faster and has more features than the standard one used in the SNES console.

Really though, this one just looks very pretty. In part that's because of the art style, which has a hand-sketched style that is reminiscent of that used in *Yoshi's Island*, while retaining its own distinct character. It's also down to the use of the console's pseudo high-resolution mode, which is used to blend adjacent pixels to create some excellent transparency effects when Kirby dips into the water or goes behind trees in the forest.

DOOM

SCULPTURED SOFTWARE • 1995

Back in the mid-Nineties, id Software's ultra violent first-person shooter was one of the very hottest PC games on the market. While it's a game that runs on ATMs and printers today, people used to measure consoles against one another based on how well they replicated the original version, because PCs were still not affordable for many. What nobody expected was that the SNES would be part of that conversation, but it was thanks to the efforts of programmer Randy Linden and the Super FX 2 chip.

Once again it's important to remember the context it was released in. This was by far the cheapest way to play the game on a console – your contemporary alternatives were to pick up a 32X, a Jaguar or a PlayStation. The SNES version actually holds its own pretty well against the Jaguar and 32X, too – it has background music that was missing from the Jaguar version, the SNES levels are typically closer to the PC originals, and it even managed to incorporate the Cyberdemon and Spider Mastermind that were missing from those versions. The enemy sprites can only face forward and the floors and ceilings aren't textured, but this was a heck of an achievement regardless.

STAR FOX 2

NINTENDO EAD/ ARGONAUT • 2017

Does this count as cheating? No, it's our list and we make the rules. The sequel to the original Super FX hit was cancelled by Nintendo in mid-1995, but eventually saw release as a bonus game on the SNES Classic Mini in 2017. Here's why it was still impressive 22 years later.

EXTRA FX

Star Fox 2 would have included a Super FX 2 chip in its cartridge had it been released. Arguably the most powerful of the SNES enhancement chips, this 21MHz chip was the design Argonaut had originally favoured, but Nintendo went with the slower Super FX for cost reasons.

FREEDOM TO ROAM

While the original game had on-rails gameplay, that wasn't actually the original plan. The use of the Super FX 2 allowed the game's designers to realise their intended vision of open 3D battlefields, which could be freely traversed with the new bipedal robot mode of the Arwing fighters.

TASTEFUL TEXTURES

As well as providing improved polygon drawing performance, the additional power of the Super FX 2 allowed for texture mapping. Though limited in use, it did help to provide an additional level of graphical detail in a game that had to adopt a relatively sparse appearance out of necessity.

SUPER TURRICAN 2

FACTOR 5 • 1995

The second SNES entry in the renowned run-and-gun series pulls out just about every graphical trick the console has to offer. If you're not being dazzled by the colourful transparent laser attacks, you might be taken aback by the use of line and column scrolling to create heat haze in the background and undulating creatures in the foreground. If multi-sprite boss creatures don't take your fancy, how about the Mode 7 one with a tongue that rotates independently of its head? You've probably seen most of these effects elsewhere once before, but few SNES games are as densely packed with graphical trickery as this one.

MY SNES TECH PICK

"When the SNES was released in 1991 in North America, I got the first games available, as did everyone else. To me, the most impressive game was F-Zero with its Mode 7 scrolling landscape that looked 3D. The speed of the scrolling was really impressive and the game perfectly showcased the power of the SNES, and gave the Sega Genesis a big smackdown."

JOHN ROMERO

Designer, Wolfenstein 3D, Doom, Quake

R-TYPE III: THE THIRD LIGHTNING

TAMTEX • 1993

Irem's famed shoot-'em-up series has never been one for revolutionary changes, instead delivering consistently high-quality action whenever it appears. However, *Super R-Type* was a bit of a blot on the record – while the game design was not at all bad, the game suffered from frequent slowdown that genuinely disrupted the experience. When people criticise the slow speed of the SNES CPU, *Super R-Type* is frequently used as evidence.

R-Type III is a great game that dismissed any bad memories of its predecessor. The game was designed from the ground up for the SNES, allowing the coders to optimise the action for the hardware – and to their credit, the Bydo assault doesn't feel even slightly diminished. What's more, Mode 7 was used to great effect to provide level designs that had been previously impossible in the *R-Type* series.

RENDERING RANGER: R2

RAINBOW ARTS • 1995

This Japanese exclusive is a bit of a rarity, as it was actually developed in Europe with *Turrican* mastermind Manfrend Trenz at the helm. The game itself is just as rare as the circumstances of its release, and carries a hefty price. Here's why it's so highly sought after.

ENORMOUS ENEMIES

Not only does *Rendering Ranger* throw around a lot of sprites in a way that seems like it should be beyond the SNES, it also manages to shift some pretty big ones too. Even the regular enemies can be pretty chunky, but the bosses are frequently screen-filling behemoths.

PEAK PERFORMANCE

What really makes the whole thing work is that it is all pulled off smoothly. The slow CPU of the SNES can be a weakness in fast action games, with shoot-'em-ups of all kinds being particularly susceptible to slowdown. The efficient programming here banishes that in a very pleasing manner.

RENDERED BY NAME

The game's name comes from its use of pre-rendered graphics, which was a late stylistic choice inspired by the success of *Donkey Kong Country*. While there's an element of trend chasing to that particular decision, it doesn't diminish the good looks of the game when taken on its own terms.

MY SNES TECH PICK

"Donkey Kong Country. The one and only time in a 40-year career that I wrote a fan letter to a company. For me, it was the perfect SNES game – it looked absolutely beautiful (and undoubtedly spurred the industry on into buying SGI computers with Power Animator!), the soundtrack was phenomenal, and the difficulty curve was absolutely spot on. It was charming, it was infuriating, it was addictive. As a data compression nut I was thinking, 'How the hell did they cram all these sprites in there?' (The answer, as it turns out, was an enormous 32 megabit ROM!) Outside of Super Mario World it is one of the finest platformers ever to grace the platform."

PAUL HUGHES
Coder, Operation Thunderbolt

DRAKKHEN

KEMCO • 1991

This RPG is a port from home computers, and it's just as impressive here as it is on those platforms for one particular reason. Rather than using standard 2D graphics or utilising the Mode 7 capability of the SNES, overworld exploration in *Drakkhen* takes place on a vector-based 3D map, populated by 2D sprites with different sizes that simulate scaling. KEMCO was able to keep the action running smoothly during these scenes too, by limiting the field of view. It's all very impressive given that the overworld sections were drawn entirely in software, with no enhancement chips in the cartridge.

F-ZERO

NINTENDO EAD • 1990

You might look at this entry and ask yourself if Nintendo was really pushing the limits of its console from the very moment it launched. The truth is, it absolutely was – but not for the reasons that you might think. The Mode 7 tracks of this futuristic racer were astonishing in 1990, but the system was designed specifically to draw them. The high speed of the game remains impressive even today, but it's not the actual speed that interests us either. Rather, it's a design factor that enabled that speed – *F-Zero* could be so fast because its tracks were enormous. When Nintendo tried to create a two-player version of the game, the use of a split-screen limited the map size, forcing it to create a slower racing game with a different theme. That game became *Super Mario Kart* – not bad.

STAR OCEAN

TRI-ACE • 1996

This is the big one. Not only does this whopping RPG come on a 48 megabit cartridge, but that cartridge includes the S-DD1 decompression chip. In terms of the amount of data it packs, *Star Ocean* tops every other official SNES release – in fact, a user modification to run the game without the S-DD1 results in a 96 megabit game, which is the kind of figure more commonly seen on the boxes of Neo Geo games. You might not be surprised to learn that tri-Ace was formed of former members of Wolf Team, developers of the titanic *Tales Of Phantasia*.

SUPER CASTLEVANIA IV

KONAMI • 1991

You'd think Dracula would have had enough of getting his undead backside handed to him by the Belmont clan, but apparently you can't keep a good vampire down, so the horror platformer series made its return on the SNES. The most immediately striking upgrade over the NES games was its soundtrack, which used the SPC-700 sound hardware to create some magnificently atmospheric tracks using sampled instruments. However, it was the clever use of Mode 7 to enhance level design that set it apart from many early SNES games. Using your weapon to hang on a hook as the stage rotated around you was magnificent, and the cylindrical rolling tunnel looked like nothing else on any console – the trick is that the level of zoom applied to the background is adjusted after each scanline, zooming out and then back in.

MY SNES TECH PICK

" Like anyone else who was a kid in the early Nineties, I was obsessed with Teenage Mutant Ninja Turtles. I had played a TON of the NES games, as that was my primary console until late into 1993. My brother picked up a SNES that year and one of the first games we played on it was Turtles In Time. Our minds were blown from the minute we managed to throw a foot soldier into the screen. To jump from the flickering sprites on the NES to the smooth and dynamic action of the SNES game – that was incredible for us. "

JOSH FAIRHURST
Founder, Limited Run Games

GANBARE GOEMON 3: SHISHIJŪROKUBĒ NO KARAKURI MANJI GATAME

KONAMI • 1994

What's astonishing about Konami's output on the SNES is the way in which it kept finding new applications for the console's capabilities. That is exemplified well in its third 16-bit entry in the *Goemon* series – better known as *The Legend Of The Mystical Ninja* on these shores. The game includes first-person mech fights, which is just as exciting an addition as it sounds. These battles feel nice and dynamic because your opponent zooms in and out using Mode 7, getting right in your face at certain points. What's quite cool here is the rudimentary background created by modifying the basic screen colour at multiple points during the frame. Mode 7 bosses in other games frequently took place against solid colour backgrounds, so this was a good way to get around the more severe limitations of the mode.

SUPER MARIO WORLD 2: YOSHI'S ISLAND

NINTENDO EAD • 1995

The Super FX chips were renowned for their ability to produce polygonal 3D graphics, but their potential to transform 2D games was much less explored. Fortunately, this classic platformer went a good way towards showing exactly what could be done, and did it with the Super FX 2 to boot. Of course, that's not to say that some polygons weren't chucked in – hazards that fall from the background to squash Yoshi are evidence enough of that.

What made Yoshi's Island so impressive was how it seemed to unshackle the SNES. Mode 7 allowed you to rotate and scale one background layer – the Super FX 2 could rotate multiple sprites on the same screen. Sprites could be warped and distorted with ease and transparency effects were in evidence all over the shop. The disparity between the lo-fi crayon aesthetic and the high-tech tricks on offer was certainly a large one.

Remarkably, none of the special effects feel like they're just there for Nintendo to show off, with every technical trick employed to enhance the game design in some way. For that kind of approach to game design, we'll happily put up with a screaming infant plumber all day long.

MY SNES TECH PICK

" Difficult question. Maybe Yoshi's Island on SNES, because it makes the SNES almost look like a new console. Though there are many games that were impressive at the time when they were released. "

JENS RESTEMEIER
Programmer, Yooka-Laylee

CYBERNATOR

NCS CORP • 1992

Few SNES blasters are as outrageous as this boisterous gem. Not only is *Cybernator* brilliantly animated and full of intense action, it also offers a spectacular sense of scale with your mech towering over the tiny humans that occasionally fight against you. Many of the on-screen sprites are huge in size, while explosions are thrown about recklessly but never hamper the on-screen action. It's a dynamic tour de force of the SNES' hardware capabilities and proves just what was capable by talented developers (witness the superb asteroids level if you need further proof of NCS Corp's game pushing technical boundaries).

SD F1 GRAND PRIX

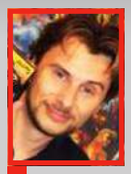
VIDEO SYSTEM • 1995

The success of *Super Mario Kart* led to a slew of copycat clones, including this delightful effort. While it's not quite as polished as Nintendo's racer, it's no technical slouch with the same amount of racers on-screen and equally colourful environments (although many of the courses are inspired by actual Formula 1 tracks). It all moves at a tremendous rate too. The real reason that Video System's game makes our list though is because of something that many might consider to be rather throwaway – namely the sheer amount of speech that spills from the lips of the game's twin commentators (who we're assuming are caricatures of real-life commentators of the sport). Granted it's at the expense of in-game music and is all in Japanese, but it remains highly impressive to hear them commenting away as you jostle for first place.

RYUUKO NO KEN 2

MONOLITH • 1994

The SNES is no stranger to impressive arcade ports, nor was it short on fighting games. As a result Nintendo's console boasts quite a few ports of games from SNK's Neo Geo arcade board, but only this ambitious effort from Monolith makes our cut. Confined to Japan, it's not only an excellent port of a highly underrated beat-'em-up, but also impresses on a technical level thanks to its slick animation and relatively large sprites. The reason it makes our list is because it's the only contemporary conversion to emulate the arcade game's impressive zooming in and out, meaning fights feel even more dynamic.



MY SNES TECH PICK

" For me Donkey Kong Country was by far the most technically impressive game on the SNES. Not just because it was the first pre-rendered game on the system, but also because it was packed full of gameplay variety. In addition to the 3D rendered sprites and backgrounds, the music really pushed the SNES creating an unforgettable soundtrack which suited the game perfectly. It was packed full of beautiful parallax weather effects and plenty of other visual treats throughout. This 'ultra combo' of elements makes it a benchmark SNES game to this day in my opinion. But then again, I would say that wouldn't I? I remember when it was unveiled to the public, journalists were asking us if we'd been modifying the hardware to get it to look the way it did. I call that technically impressive! "

KEVIN BAYLISS

Artist, Donkey Kong Country

DONKEY KONG COUNTRY

RARE • 1994

Rare's incredible technical capabilities are so accomplished that when *Donkey Kong Country* was first shown off, many mistakenly assumed it was running on Nintendo's incoming 64-bit console. Created with the aim to combat Shiny Entertainment's *Aladdin* on Mega Drive, Nintendo didn't have access to Disney animators, but it did have Rare and the eager beavers at Twycross had been experimenting with a proprietary graphics system that eventually became ACM (Advanced Computer Modelling). By using powerful SGI workstations that had cost thousands of pounds, the small team of 12 (which occasionally hit 20) were able to create the advanced pre-rendered graphics that gives *Donkey Kong Country* its distinctive, stylised look. Equally memorable is the game's gorgeous soundtrack, which was overseen by David Wise, who used advanced Waveform sequences in order to get the desired sound out of the 64 kilobits of cartridge capacity he'd been assigned. The end result is one of the system's most spectacular-looking games and an early technical indicator of what Rare would achieve on the N64. Indeed, perhaps the biggest accomplishment you could say about Rare's game is that despite its many technical tricks and feats the developers were able to cram the entire game on a 32 megabit cart without the need for additional add-on components.

SUPER ALESTE

COMPILE • 1992

Shmups don't have a great reputation on Nintendo's 16-bit console, but efforts like Compile's *Super Aleste* proved that the SNES was more than capable of taking on its peers. Here's why.

CRAZY EFFECTS

Compile's game has all manner of clever graphical effects throughout its 12 stages, from translucent clouds and multiple levels of parallax, to a cool background trick that makes certain stages shimmer and wobble.

MODE 7

Super Aleste is packed with liberal use of Mode 7, with the highlight being level two's gigantic space station. It's initially tiny on-screen before scaling in to be several screens in size.

SPRITE OVERLOAD

The SNES is supposed to be quite poor at chucking sprites about, but nobody told this to Compile, as it flings sprites about the screen with a gleeful lack of disregard of the console's apparent capabilities.

LACK OF SLOWDOWN

Considering the amount of action in this screenshot you're probably thinking Compile's game often slows to a crawl like *Super R-Type*. You'll be pleasantly surprised to learn that slowdown rarely appears and never hampers play.

CONTRA III: THE ALIEN WARS

KONAMI • 1992

Konami rarely put a foot wrong on the SNES, delivering top-quality games that were technically polished and fantastic fun to play. Occasional moments of slowdown rarely ruin the flow of *Contra III*, which plays out at a blistering pace. Mode 7 effects abound throughout Konami's game, but the best examples are undoubtedly the two overhead stages that play out on huge maps that you rotate with the L and R buttons. Just look at this example – the boss rotates in one direction, while the ground uses sprites to simulate a second independently rotating layer, creating one of the game's most spectacular moments in the process.

MY SNES TECH PICK

"I remember stopping dead in my tracks on seeing Axelay the first time. It just seemed to be doing the impossible! The smooth 3D effect as you blasted up the screen, huge bosses and just layers upon layers of transparency. Then you got to the second stage with the fight against the 'ED-209' boss and when you thought that couldn't be topped it did, stage after stage after stage, the fire stage being essentially a 3D version of Gradius II. The guys went on to form Treasure and of course astounded us further with each game, but Axelay still has a place close to my heart."

STEVE LYCETT

Producer, OutRun 2006: Coast 2 Coast

INDIANA JONES' GREATEST ADVENTURES

FACTOR 5/LUCASARTS • 1994

This collaboration between LucasArts and Factor 5 is as technically impressive as it is difficult to get through. From a gameplay point of view it's structured very similarly to the *Super Star Wars* trilogy, but is larger in scope with the first three Indy movies being spread across 28 different areas. It immediately impresses from the start with an outrageously good rendition of the iconic boulder scene from *Raiders Of The Lost Ark*. Factor 5 continues to flex its graphical muscles, finding all kinds of ways to use Mode 7 in later stages, from a frantic tussle on top of a moving tank, to an exciting biplane battle. The best bit by far though is an exhilarating mine-cart sequence, which simulates two Mode 7 layers by zooming out of and back into one background layer as each line of the frame is drawn. *

ULTIMATE GUIDE

Pilotwings

THE ORIGINAL PILOTWINGS IS AN ANACHRONISM; IT REPRESENTS PEAK EIGHTIES TECH, YET IT HELPED DEFINE THE VIDEOGAME ERA OF THE NINETIES. WHAT WE ULTIMATELY RECEIVED IS ALSO VERY DIFFERENT TO THE GAME ORIGINALLY ENVISIONED. NINTENDO HAS SEEMINGLY FORGOTTEN THE SERIES, BUT WE CERTAINLY HAVEN'T!

Words by John Szczepaniak

» Using old magazine scans and leaked graphics assets, Chris Covell created this accurate mock-up of the unreleased *Dragonfly*.

The history of *Pilotwings* is inextricably entwined with the conception of the Super Famicom itself, and to fully appreciate it, one needs to visualise the global zeitgeist of November 1988. This was the same month the films *They Live* and *Scrooged* both premiered; *Last Ninja 2* topped UK software charts, while *Super Mario Bros 2* on NES enthralled the US. In Japan though, on the 21st of that month, Nintendo was demonstrating the Super Famicom for the first time. This new hardware had been hinted at as early as September 1987, but this was its grand unveiling. *Famitsu* magazine naturally ran a feature in its 64th issue.

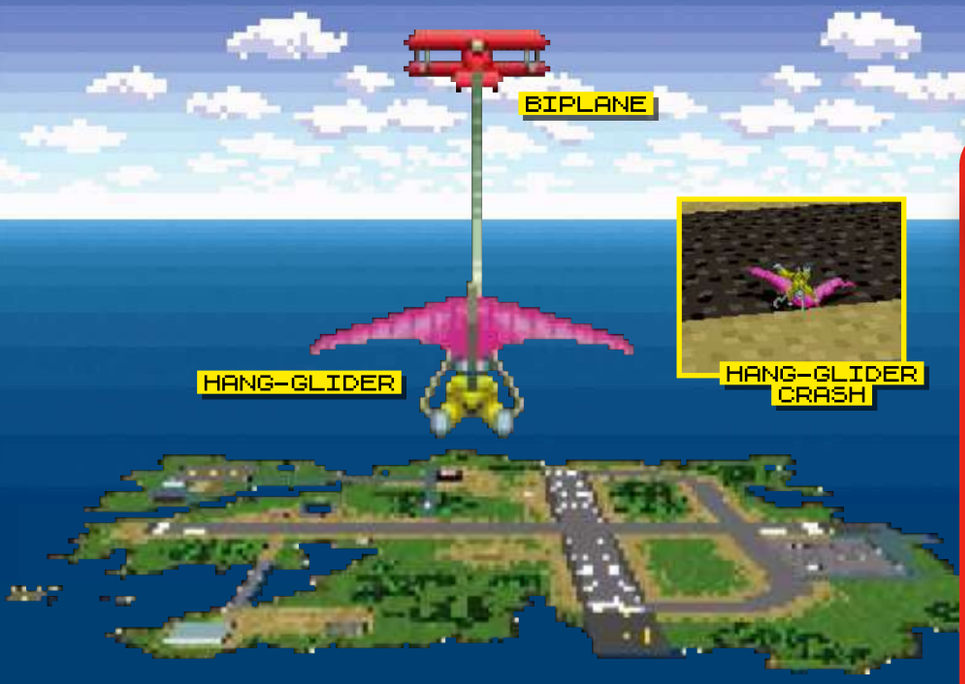
Nintendo's timing was shrewd: Sega had launched its Mega Drive less than a month earlier, now suddenly here was the successor to Nintendo's Famicom, the system that gave Japan *Dragon Quest* and national hysteria. The Super Famicom and its promised on-screen colours, resolution and touted Mode 7 feature captured *Famitsu*'s interest – the magazine actually explained its capabilities in terms of how many *Dragon Quest* characters could be displayed. Sega's new hardware? Nintendo had in effect strived to give a slow-acting 'dim mak' ('touch of death') to its rival – never mind that the Super Famicom wouldn't even launch for another two years.

Trawling that 1988 *Famitsu* report reveals little in the way of actual Super Famicom games, apart from one called *Dragonfly*. Over 16 pages, this demo was given at least 45 screenshots. There were no new *Mario*, new *Zelda*, nor new *Dragon Quest* images – all the focus was on *Dragonfly*'s various demos. Other magazines followed in announcing the Super Famicom, also focusing on *Dragonfly*. The name would eventually change, but the red biplane shown in screens was unmistakably the same one players would fly in *Pilotwings*. For you see, *Dragonfly* is the unreleased precursor of what would ultimately become *Pilotwings*.

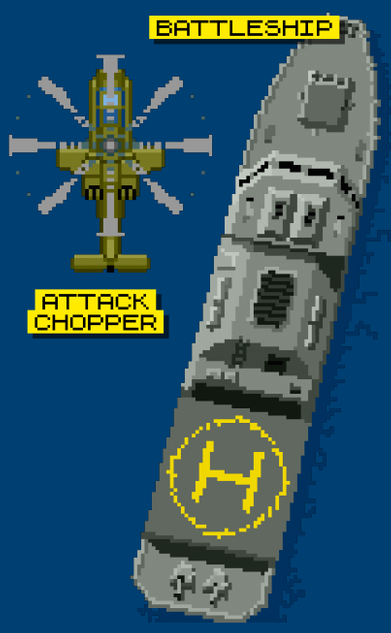
Press enthusiasm at the time is unsurprising, given that according to *Gamest* magazine the highest-grossing game(s) in Japanese arcades in 1988 – arcades being the then-usual barometer of technological progress – was still *After Burner* and *After Burner II*, which had been released the preceding year. Although *After Burner* received numerous home ports, there was nothing in the market capable of replicating the grandeur of the arcade original. So in November 1988, to witness *Dragonfly*'s rotating and scaling landscapes, and know this was destined for home use, it would have seemed revolutionary. *Famitsu* made a point of comparing *Dragonfly* and *After Burner* on page 99 of that special report issue. *After Burner* was an impressive, though linear, aerial shooter for arcades, whereas Nintendo was promising free-roaming flight with similarly impressive visuals in your own room. Granted, the *Pilotwings* cartridge would contain a DSP-1 chip to make this all possible, but it represented the then-zenith of videogame technology.

What's interesting is *Dragonfly*'s continual metamorphosis that took place between November 1988 and July 1989, when Nintendo

» [SNES] We're not sure what these white blisters are supposed to represent, but the jetpack can bounce on them unharmed.



» [SNES] Take-offs are easy. Landings are also fairly easy – this isn't *Microsoft Flight Simulator*, it's more casual.



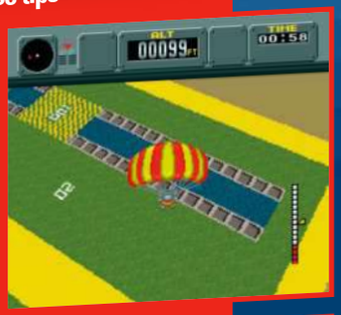
gave a second major demonstration of the hardware, until its eventual Japanese release as *Pilotwings* in December 1990, a month after the Super Famicom launch. For the July 1989 event, Nintendo showed off what would become *Super Mario World*, in addition to a rather different-looking *Dragonfly*. The game had not a red biplane as before, but instead an insect-like vehicle, complete with transparent wings, and a HUD that displayed missiles and shields. Now it was about action, with the craft shown hovering above a futuristic battleship and strafing ground targets. Ultimately, this version would never come out, and the concept regressed to what was shown before – the red biplane, runways and a relaxed atmosphere. Though unreleased, graphics assets for this lost incarnation of *Dragonfly* were discovered in the 2020 Nintendo data leak. While no playable version has been found, yet, enthusiasts have taken these graphics and created accurate mock-ups as well as sprite animations.

The Sky's The Limit

Master Pilotwings with these tips

MINIGAMES BOOST POINTS

If you find yourself struggling to reach your point quota for a stage, try accessing the hidden minigames by landing on special targets. Although difficult, it will net that vehicle a full 100-score-plus extra! The jetpack is easiest, the parachute challenging – don't even bother with the glider.



GET TO DA CHOPPER!

You are not Robert Duval and this is not *Apocalypse Now*. You will get killed if you rush the combat missions. Complete these super slowly; you have ample fuel so there's no real time limit. Enemies only attack when visible on-screen, so destroy them one at a time, including the invisible ones.

THE BIG STUFF

No one likes to miss a ring when skydiving, but the points are small compared to your landing. If you miss a couple, don't sweat it. Whatever the mission, always focus on the biggest scoring criteria. Better to lose a few points for taking too long than miss a juicy landing.

TAP THAT GLIDER

The glider is the hardest vehicle in any stage, especially the landings. Tap the brake repeatedly – don't hold it – to reduce speed in a controlled fashion without stalling. We landed the glider on a special target to unlock its minigame only once, and it was with this tapping method.

RUNWAY DRIVING

It's important to come to a standstill as close to the centre as possible when landing the biplane. If you've done a perfect flight but find yourself near the runway edge after touchdown, don't be afraid to increase throttle slightly and taxi to the centre. It'll coax a few extra points.

The Sequels

Can you believe there's only three games?

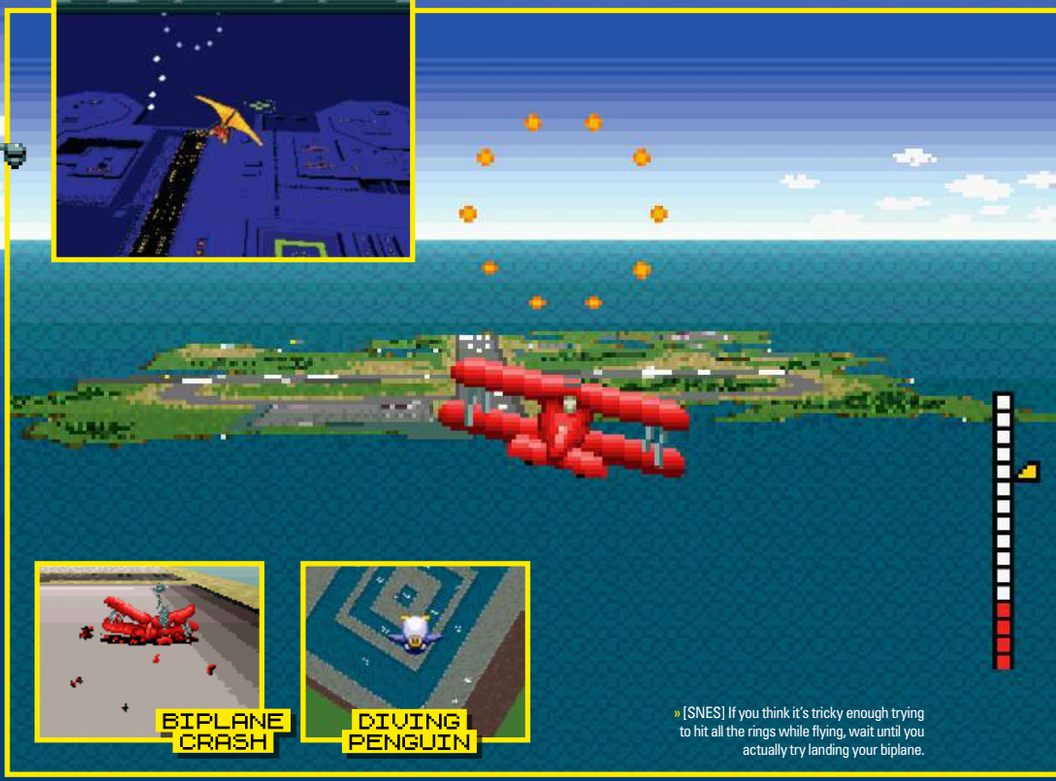
PILOTWINGS 64

Controversial alternate opinion: *Pilotwings 64* was the better launch game. *Super Mario 64* is amazing, but there's not much to do after you grab all 120 stars. With *Pilotwings 64* you could invent your own goals. Gyrocopter barnstorming, landing the glider on smokestacks, racing the rocket in a jetpack – your imagination is the limit!

PILOTWINGS RESORT

Roughly 15 years after the N64 sequel there was this 3DS release. The presentation, physics and controls are all very nice, but this feels like a missed opportunity. It recycles Wuhu Island from *Wii Sports Resort*, meaning there's only one stage instead of four, which severely reduces the variety from the two previous games.

JETPACK



BIPLANE CRASH

DIVING PENGUIN

» [SNES] If you think it's tricky enough trying to hit all the rings while flying, wait until you actually try landing your biplane.

BIRDMAN 2

» [SNES] This is the landing for the birdman minigame. We attempted it multiple times and only landed it once.

Marvellous Minigames

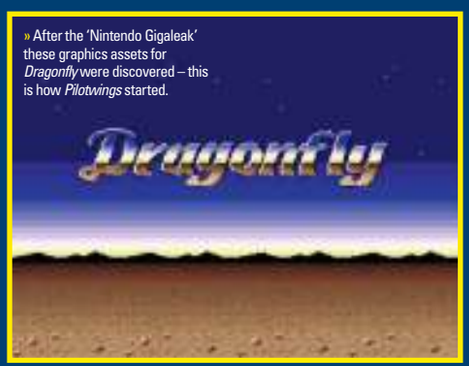
BIRDMAN BOUNCE

The easiest minigame to access, you just need to land the jetpack on the moving platform. There are a few different variations of course layout but they all involve bouncing on 'P squares' for extra points, bouncing over long distances via yellow trampolines, then landing in the watery target zone.

PENGUIN DIVE

Difficult to access, since it requires parachuting onto a small green moving platform, but not impossible. Afterwards, you manoeuvre a diving penguin into a target pool. There's several different pool layouts, randomly chosen. Do not get greedy and aim for the 70 point pool, 50 points is easier and still plenty.

The US received *Pilotwings* as a Super Nintendo launch title in August 1991, while Europe received it later in 1992, nearly four years after the Japanese public first glimpsed it. When *Pilotwings* eventually emerged in its final form, critics' reactions ranged from good to fantastic. Japan's *Famitsu*, which had printed all those screenshots from its public unveiling, scored it a reasonable 30/40 (equivalent to 75%). *Electronic Gaming Monthly* in America gave a similar 8/7/8/8 score across four reviewers in its 1992 *Video Game Buyer's Guide*. Ed Semrad was the dissenting voice on page 55, scoring it seven and complaining about the game's lack of challenge. To put this in context, one of the highest-scoring games in that same guide was *Battletoads* on NES, scoring straight nines, which is regarded as one of the most difficult games ever made. In the UK, the magazines *Mean Machines*, *Super Play* and *Total!* all scored *Pilotwings* in the 90% range, while *Games World* on TV used *Pilotwings* for competitive play, as contestants tried to beat each other's mission scores.



» After the 'Nintendo Gigaleak' these graphics assets for *Dragonfly* were discovered – this is how *Pilotwings* started.

» [SNES] The nighttime level looks very pretty – the glowing lights below are even animated!

» [SNES] The jetpack has two camera modes: behind the player and, as shown here, from above.

It's very easy to look back on these reviews with a raised eyebrow. It was a different time, with dissimilar societal norms and values, and what was written should be held up within the context of its era, not present-day standards. Even acknowledging this though, we can't help but feel that maybe some reviewers weren't approaching *Pilotwings* with the right frame of mind. Some of the late-game missions are extremely challenging, but where *Pilotwings* truly shines is in conveying a sense of aerial freedom and the innate pleasure of controlling its vehicles. Whether it's the biplane, jetpack, parachute or hang-glider, the responsiveness of that d-pad coupled with a smooth chill-out jazz soundtrack is an exquisite feeling. Keep in mind the SNES had no analogue joystick with which to replicate real aeroplane controls, and yet despite this, everything handles precisely as you would expect and want. Obviously, the game's main goal is reaching score quotas through mission objectives but, every so often, it transcends its own rules to become something blithe and wonderful, hinting at the majesty to be realised in *Pilotwings 64*. Today, there are many serious or more challenging flight simulators available, but players continue to enjoy the original *Pilotwings* specifically because its focus is on creating a sense of delight. (However, if you really want a test, try accessing the birdman stage via the hang-glider missions.)

The last US and European SNES games were released in 1998, a decade after the hardware was first shown. In Japan, the last Super Famicom title was released in November 2000, meaning it almost outlived even Sega's Saturn (its last game was *Yuukyuu Gensoukyoku*, December 2000). Nintendo's little grey console instilled itself in the collective consciousness of all players internationally, and by extension so did the hardware's early games which included *Pilotwings*. This 16-bit machine was part of the gaming landscape throughout the decade of the Nineties, both in and of itself and also by defining the creation of Sony's PlayStation. You can't talk about PlayStation without acknowledging the Super Famicom, and it all started with that demo of *Pilotwings* in 1988, tentatively named *Dragonfly*.

Its enduring idea of allowing anyone at home the sensation of flight went a long way, through several fundamental revisions before release, and evolving with two sequels. While the original *Pilotwings* has since seen re-release via download on Wii, Wii U, 3DS and Switch, the series has not had a mainline release since *Pilotwings Resort* in 2011. Which is a shame, when you consider its origin and legacy. Who knows, maybe one day we'll get to fly the skies again in a new release, or maybe even in the unreleased *Dragonfly* itself. ✱

Special thanks to **www.chrismcovell.com** for giving permission to trawl through and reprint anything from its *Dragonfly* archives.

Unbeknownst to many players are these hidden curiosities!

BIRDMAN FLAP

We don't even want to think about how many times we tried to access this – it's almost impossible. You need to complete a glider mission, then land on the minuscule alternative platform surrounded by water. Madness! Afterwards, flap your wings to fly the birdman as far as possible.

TOMMY TALLARICO

» The crazy tunes that feature in the first three games are courtesy of Tommy.

DAVID PERRY

» Programming was just one of David's roles on the original *Earthworm Jim*.

NICK BRUTY

» Nick did graphics and design work on the Sega *Earthworm Jim* games.

Having made a string of hits for Virgin Interactive, a number of its developers left to form Shiny Entertainment. David Perry, Nick Bruty and Tommy Tallarico discuss Earthworm Jim, the series it led to and their new efforts to continue the series

WORDS BY RORY MILNE

THE EVOLUTION OF EARTHWORM JIM

» [Mega Drive] Doug TenNapel suggested *Earthworm Jim*'s hellish What The Heck? level should be plagued by lawyers!

» [Mega Drive] *Earthworm Jim* was clearly influenced by *Global Gladiators*' open-world platforming and ranged weapons.

"TEX AVERY WAS A BIG INSPIRATION TO THE ANIMATION TEAM. THE ANIMATORS HAD HIS LASERDISCS PLAYING ALL THE TIME WITH JOHNNY CASH IN THE BACKGROUND"
DAVID PERRY

No matter how much freedom the creators of a licensed game are given, their design must include certain elements and avoid using others. Virgin Interactive's in-house development team walked this line for several years during the Nineties, producing hits like *Global Gladiators*, *Cool Spot* and *Disney's Aladdin*. Virgin's musician on these titles was Tommy Tallarico, who remembers the experience as a pleasure rather than a chore. "We worked on a string of amazing games there," Tommy reviews. "I think it just goes to show how gelled the team really was, and how important the friendships we all had were. We were pretty much all single guys at the time, in our early to mid-20s, and we just wanted to make great videogames. No one ever asked us to work late or work on the weekends; we just did. We were just so excited to be creating something that we felt was so special – with each one of those games."

But however good things were at Virgin, the massive success of *Aladdin* convinced several of its in-house development team to part ways with their employer and form Shiny Entertainment. They hoped to work on another big licence, but as artist/designer Nick Bruty explains, things didn't quite go to plan. "When we left Virgin to start Shiny we were hoping to convince Disney to give us *The Lion King* licence to follow up *Aladdin*," Nick remembers. "But Disney stuck with Virgin, so that left us in search of a new licence or an original property for our first game. Doug TenNapel had joined Virgin shortly before we left, and Mike Dietz – our animation director – suggested we meet with Doug, because he was working on his own original character creations."

A lack of licensed alternatives to *The Lion King* soon led to Nick and Shiny founder David Perry doing just that, as the former coder recalls. "We just couldn't find a licensed project we were excited by," David notes. "But Doug was interviewing and we got to see Earthworm Jim, and that's what not only got him hired but also pulled us away from licensed games. He drew Professor Monkey-For-A-Head, and I thought it was so funny, probably the most insane character I'd ever seen. If our game wasn't starring Earthworm Jim I'd have wanted to make a Professor Monkey-For-A-Head game!"

The professor would still appear in Shiny's debut, however, as would many of Doug's other creations, including one that Nick remembers the artist pitching at his interview. "Dave and I had just been looking over ▶

STAGES OF EVOLUTION: EARTHWORM JIM 3D

THE BRAVE ATTEMPT TO TAKE JIM INTO THE THIRD DIMENSION

■ To give credit where it's due, the developers of *Earthworm Jim 3D* tried to retain everything they could from the earlier games. Jim's head whip and blaster survive the transition from 2D, for example, and the sequel's new weapons are suitably surreal – especially its Gnome Bazooka! The majority of the platforming mechanics from the original games are present too, but the trouble is that their transition into 3D just doesn't work too well, and this is exacerbated by the camera not always self-aligning itself with the direction that Jim is facing.

Much more successful is the 3D sequel's approach to humour, and although this doesn't quite nail the wildly inventive insanity of the games it tries to channel, there are certainly moments in its narrative that have you laughing out loud – Jim playing an udder like the bagpipes and riding around on an upside-down pig being just two examples! But just the fact that it *has* a narrative seems to go against the grain. If the original titles had storylines then they were really beside the point, and they certainly didn't put their gameplay on hold so that non-player characters could advance their plots.

Earthworm Jim 3D does look the part in terms of its depictions of the returning cast, however, and its new characters don't look out of place, but its focus on collecting numerous marbles and killing off endless foot soldiers isn't nearly as much fun as taking a trip through the crazy and eclectic levels of the original games.

STAGES OF EVOLUTION:

EARTHWORM JIM
MENACE 2 THE GALAXY

THE HANDHELD SYSTEM EXCLUSIVE THAT FELL SHORT

■ It's far from a bad game, but *Earthworm Jim: Menace 2 The Galaxy* could have easily been based around any number of franchises; there's just nothing about it that's uniquely *Earthworm Jim*. That said, it does have bosses from the original titles, and battles with the likes of Bob The Goldfish are by far the most original aspect of the Game Boy Color sequel.

Otherwise, *Menace 2 The Galaxy* is a collect-a-thon, with much of the time spent bouncing between platforms in search of what look like giant doughnuts. Occasionally you use your blaster to dispatch level-themed foes – little green men in its space level, science experiments in its lab level and so on, but otherwise your goal is to collect things.

In terms of interactive features, the handheld sequel better reflects its predecessors. There are zip lines straight out of the first game, and ropes suspended over steep falls that mirror the original's hanging chains. You can even blast your way along some in reference to the mechanics of the original, which is a nice touch.

The Game Boy Color title's levels aren't the most imaginative, but there are nods to the humour of the original games – such as Jim warping between sections by jumping down toilets, and bouncing on sheep to reach higher areas. Although these sorts of surreal diversions are few and far between.

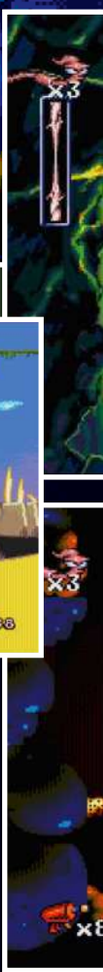
In the main, *Earthworm Jim: Menace 2 The Galaxy* involves hopping from platform to platform, which is a real shame given the potential of the licence.

» [Mega Drive] *Earthworm Jim*'s submarine maze race is just one of the game's seriously tricky challenges.

» [Mega Drive] Jumping between balloons in *Cool Spot* led to swinging between hooks in *Earthworm Jim*.

» [Mega Drive] Where *Aladdin* has suspended vines, *Earthworm Jim* has chains strung between platforms to negotiate.

» [SNES] Shiny's SNES *Earthworm Jim* features background art on levels where the original didn't have any.



» The original *Earthworm Jim* team, many of whom are working on the new Amico title.

» [Mega Drive] The series of eclectic levels in *Earthworm Jim* includes one based around a bungee-jumping battle!

» [Mega Drive] The Intestinal Distress stage in *Earthworm Jim* was designed just days before the game's release.

» [Mega-CD] The extended New Junk City level in *Earthworm Jim Special Edition* sees Jim stripped naked.

▶ licensed IPs from a Hollywood agent, and they were all rather dreadful," Nick sighs. "Then Doug showed us a single image of Jim, and we were sold instantly. Jim really was a perfect videogame character. I think Doug had about three or four other characters in place by then too. I remember falling in love with Evil The Cat, so I made sure his was the first level I'd be working on."

Of course, Doug's character sketches had to be animated for Shiny's game, and David remembers two very different artists influencing his animators. "Tex Avery was a big inspiration to the animation team," David acknowledges. "That style of animation was really funny, like when someone got punched and their whole head turned into a U shape! Back then, the animators had his Laserdiscs playing all the time with Johnny Cash music in the background. That combo ended up making them do crazy stuff!"

In keeping with Earthworm Jim's cartoon-inspired physical humour, Shiny's character was made to sound equally amusing, thanks to the project's musician Tommy Tallarico. "We were all asking what sort of voice Jim should have," Tommy ponders, "so I said I thought it would be funny if he had this Southern drawl, and make him this back-town kind of guy that went, 'Gr-oo-vy! Yeah! Woo-hoo!' I said to Doug that we ought to have him as the voice, because he's quite the comedian. One thing we thought would be good was if Jim always stated the obvious. Like he got a manta power-up, and just said, 'Mant-a!' Or he got a gun and said, 'Plas-ma!'"

> "WE NEVER HAD A GAME DESIGN. WHERE WE STARTED WAS WITH THE HUMOUR, AND THAT DICTATED HOW WE MADE THE GAME"
> TOMMY TALLARICO

Given the Shiny team's track record, it's unsurprising that they broadly designed *Earthworm Jim* as a platformer, although their approach was decidedly ad hoc. "We had just come off making *Aladdin* for Disney on the Sega Genesis, so we were very interested in making more platform games," David enthuses. "The challenge was that we didn't have a design document, so instead we used the, 'That feels good', 'That would be funny if…' strategy, and it worked out nicely. It meant the game didn't get stale as it was *impossible* to know what was coming next."

After working with so many licences, Nick viewed *Earthworm Jim* as a breath of fresh air, although he saw an upside to his team's previous projects all being platformers. "With *Jim* we were free to do what we wanted," Nick beams. "We had just made a series of licensed titles, and as you might imagine there wasn't a whole lot of artistic freedom when working with publishers like Disney. But having made numerous platformers, Dave's game engine was very robust, so it was fun just trying to push it in new directions. The smaller levels were interesting to work on, as you could use up all the memory on just one to two screens worth of play."

The design of *Earthworm Jim*'s opening level certainly pushed David's engine, but as he points out, Shiny stopped short of making its junkyard boss Chuck edible! "Over the years, I had found a pretty cool way to make games, where you had your own programming language running inside the game engine. That meant any object could do just about anything, so you could have Chuck driving equipment, or you could have a sandwich doing it! It was insanely flexible, so it really just needed crazy ideas, and we had plenty of those."

The crazy ideas fuelling *Earthworm Jim*'s design came out of the Shiny team joking around, and as Tommy recollects, taking the joke too far was all part of the process. "We never had a game design. Where we started was with the humour, and that dictated how we made the game. So I remember somebody saying it would be funny if we launched a chicken up in the air! Then maybe it would be funnier if it was something that didn't fly. So what if we had something heavy fall and launch a cow up in the air? How about an old refrigerator? What if we were in a junkyard? Boom! So the gag came first, and as we talked it through the level came together."

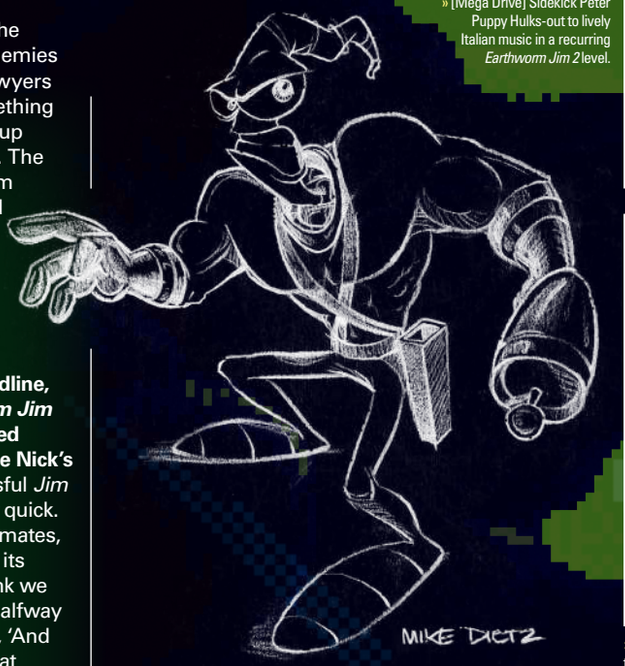
On bringing these discussions to life on the screen, Nick describes the task as building compelling environments around the aesthetics of Doug TenNapel's character designs. "Since Doug had most of the characters in place by the time we met, what we added was really the surrounding world of the game. We were really just trying to come up with what would be interesting levels – something different for players to see. We would discuss certain points within them, where we were going to have end-bosses and what characters we were going to have. So the background artists were also the game designers, it all went hand in hand back then."

In the same way that *Earthworm Jim*'s levels complemented Doug's crazy characters, the music Tommy selected for the stages reflected their wacky objectives. "When you first saw the Andy Asteroids level Jim was riding on his rocket through space, and any normal person would make it sound like *Star Wars* – or have techno music or something. But what would be funnier, because he was from the South, was to play banjo music! For Heck – Evil The Cat, I used Mussorgsky's *Night On Bald Mountain*, the joke being that when it got really serious I did a record scratch, where Evil The Cat played elevator music to torture you!"

As well as a gag soundtrack, *Earthworm Jim*'s hellish second level ended up with eclectic opponents, and thanks to Nick some ▶

» [Mega-CD] *Earthworm Jim Special Edition*'s What The Heck? stage is bigger than the original's.

» [Mega Drive] Cows are Shiny's mascot, so Jim carrying them around in *Earthworm Jim 2* makes perfect sense!



» [Mega Drive] Sidekick Peter Puppy Hulks-out to lively Italian music in a recurring *Earthworm Jim 2* level.

▶ quite unusual modes of transport. "The animators would often come up with enemies – I think it was Doug who wanted the lawyers for Heck, but then I felt we needed something flying around the open areas and came up with the black smokey things with teeth. The animators were busy, so I animated them myself. At the time I was playing around with 3D rendering, and I made the spinning jewels, which eventually turned into elevators. So a lot of things just kind of got thrown in due to the short development time."

In addition to working to a tight deadline, Shiny received word that *Earthworm Jim* would be expected to support related projects, which was enough to make Nick's head spin. "We didn't know how successful *Jim* was going to be, and it was all very, very quick. We were working with a publisher – Playmates, who was initially funding it, and this was its first videogame. It was like, 'Hey! We think we can make this into a toy line!' That was halfway through *Earthworm Jim*. Then it was like, 'And we're going to do a TV show, because that will promote the toy line.' So everything was happening all at the same time, and we didn't get a chance to catch our breath."

Although not the only level designer on *Earthworm Jim*, Nick did create the lion's share, which included a last minute effort that left him exhausted and on-edge. "I handled a lot of the levels, especially at the end where Sega asked for a new one days before we were going to publish. That made it a really mad scramble at the end there. The last level I did – Intestinal Distress – I made that in a day and a half, and I played through it maybe twice before it went off, so I was a nervous wreck over that and I'm just amazed that anyone actually got through it."

> **"OUR PUBLISHER WANTED TO STRIKE WHILE THE IRON WAS HOT, AND TO RELEASE THE CD VERSION WITH A WHOLE NEW LEVEL"**
> **NICK BRUTY**

Players got their first chance to play Intestinal Distress when *Earthworm Jim* debuted at a US trade show, and thanks to a friend of Nick's this was a huge success. "Playmates was showing *Jim* for the first time, but it just had a tiny little monitor – you couldn't even see it! But we had a friend who had his own stand. We were telling him how disappointed we were, and he was like, 'Do you want some of my space?' So we went out and rented a rear-projection TV and got hold of a Genesis, and hooked up *Earthworm Jim properly*. That was the first time we got a sense of how people responded to the game, and that was a real buzz!"

Soon after, Playmates asked Shiny for a Mega-CD version – *Earthworm Jim Special Edition*, to include extended stages and a new level, the design of which fell to Nick. "I consider the Mega-CD version to be the best version," Nick beams. "Our publisher wanted to strike while the iron was hot, and to release the CD version with a whole new level. I was kind of hoping that would fall to someone else, as I had just come up with Intestinal Distress. I didn't have a start point or an idea in mind when I started working on it. I just kind of mindlessly drew some planks of wood, and it grew from there like the ramshackle level it was."

More a product of evolution than the end result of team meetings, Nick's exclusive Mega-CD level was given a boss that its animators named after the stage's designer. "It started to look like a crazy assault course, and I thought it might be cool if you were chased. I asked the animators for a slobbering monster that you had to tease to come after you. I think they were also short of ideas, and they named the creature Big Bruty. I could say that I was thinking of the game as a whole when designing this, but looking back it feels quite different, kind of creepy. And that's OK."

Given the urgency for *Earthworm Jim Special Edition*, it's no wonder that it just had one new level. With more time, David imagines it would have had various new stages. ▶

» [Mega-CD] The Big Bruty stage was especially created for *Earthworm Jim Special Edition* by Nick Bruty.

MIKE DIETZ

STAGES OF EVOLUTION:

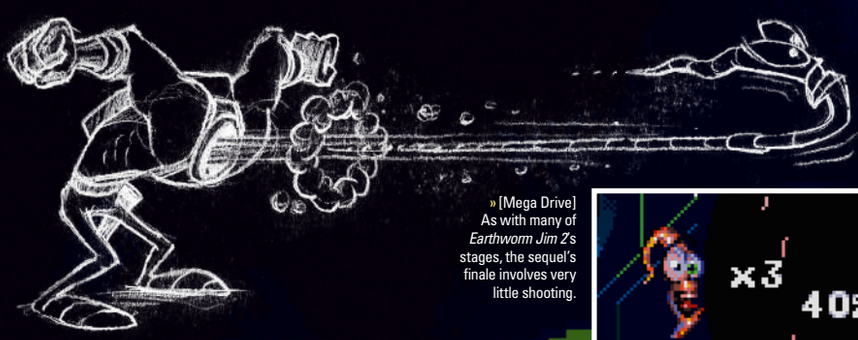
THE CANCELLED REBOOT WITH SUPER SUIT UPGRADES

Rather than the dream sequel planned by the creators of the original *Earthworm Jim* game, the half-finished PSP iteration was put together by an internal Shiny team, long after its founders had left the formerly prestigious firm.

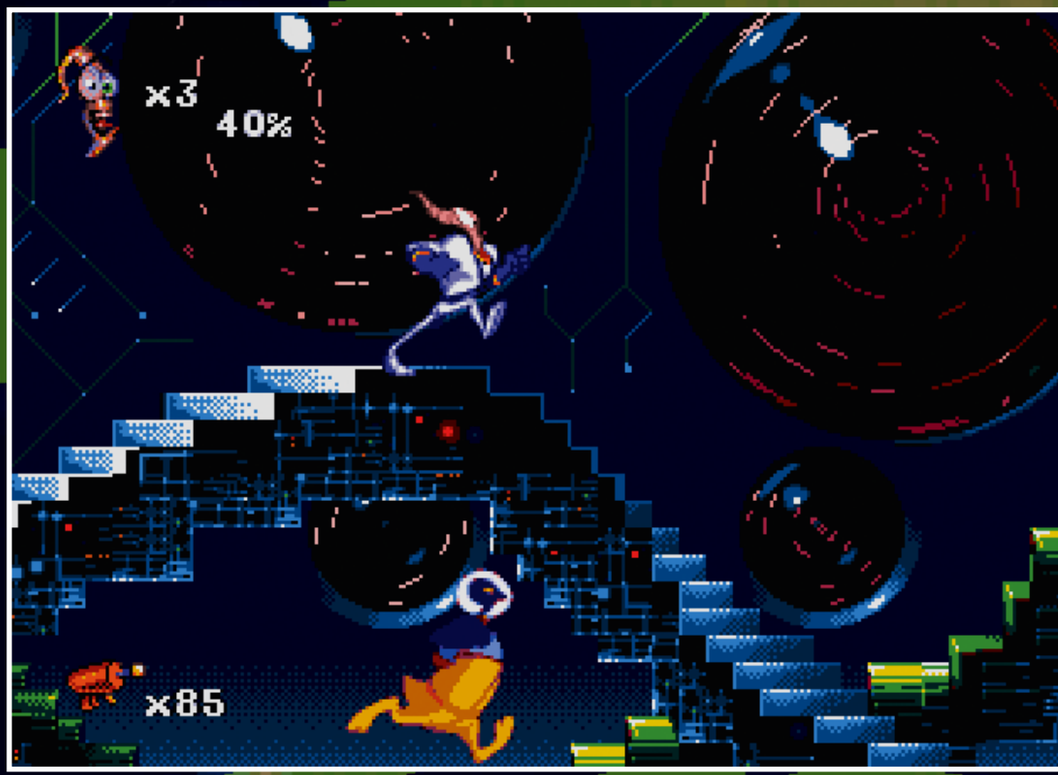
The one fully completed level from the reboot is a return to New Junk City, where Jim is given a gem-collecting sidequest and an upgradeable super suit. The new abilities it offers him include being able to stick to the sides of platforms by the soles of his boots, run fast along conveyor belts against their direction of travel and fly short distances using jets built into his footwear. Jim's enhanced exoskeleton is also far stretchier than before, which allows him to squeeze through narrow spaces.

His trusty blaster is much like it was in the original games, but the portable PlayStation title boasts a new head whip move, where Jim's suit swings the hapless worm around and around, battering everything in his path as he goes!

The partially completed PSP title brings the crows back from the original's New Junk City, although they have cybernetic cranial implants for some reason. The junkyard dogs from Jim's debut also make a reappearance, and they've been taught the new trick of spinning around like mini tornados. Billy The Bin makes his return in the PSP title too, although the boss is less cartoony than he was in the first *Earthworm Jim* game, which is true of the general approach to the unfinished and unreleased PSP outing.



» [Mega Drive] As with many of *Earthworm Jim 2*'s stages, the sequel's finale involves very little shooting.



STAGES OF EVOLUTION:

EARTHWORM JIM HD

THE HD REMAKE WITH EXTRA CONTENT AND A MULTIPLAYER MODE

There's not a lot to say about the HD *Earthworm Jim*'s take on the original's levels. They're rendered in a higher resolution, obviously, and then whether they look nicer or not is in the eye of the beholder. They play exactly the same, aside from giving you pre-level hints and in-game arrows that point you in the direction you should be going. Other than that, the bosses in the HD remake's versions of the original game's stages have on-screen health meters, which the original lacked.

More interesting are the new levels in the HD adaptation, the more successful of which are the multiplayer ones. Each one is set in one of the environments from the original game, but with entirely different layouts and fresh challenges designed to encourage co-op play. They're best described as chaotic fun, and this is at least partly because they borrow mechanics from the original game's levels. But the clever way that the camera in the two-to-four player challenges pans in and out depending on how close or far away players are from each other definitely helps.

The new single-player stages in the HD game are set inside a games console, and these feature both fresh mechanics and some from the original game. New opponents include a keyboard-playing cat, a jetpack-wearing granny and a swarm of locusts!

Purists may prefer the original game's visuals, but the HD update's new solo levels and multiplayer mode make it a must-play title – if only it hadn't been taken offline.

"EARTHWORM JIM 2 WAS MUCH MORE RANDOM AND LOOSE. IT WAS INTERESTING IN ITS OWN RIGHT, BUT IT DIDN'T FEEL LIKE A SINGULAR VISION"
NICK BRUTY

"I liked a nice mix of platform levels, and then minigame levels. The minigames were more fun to develop – like the underwater glass submarines. It was also fun to add memorable moments – like riding the giant hamster. So given more time I'd have wanted to add a mix of all three of those."

As things turned out, not only was there no time to give *Special Edition* more new stages, but Shiny also went straight on from getting it shipped to making *Earthworm Jim 2*. "It's a shame we didn't have more time," Nick reflects. "Not necessarily for development itself, but just to have a creative break for a while so we could hit the sequel feeling fresh – especially as this ended up being our last 16-bit title. So I'm not sure why the push was there for a quick turnaround on *Earthworm Jim 2*."

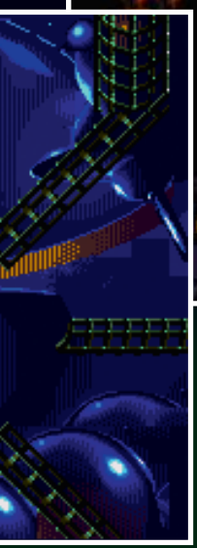
Naturally, there was commercial pressure to release the follow-up, but David offers an additional reason for rolling on from one *Earthworm Jim* game to the next. "When you had a team of people that were used to making games *fast*, they couldn't just sit around. They were bubbling with ideas, and just needed to keep going. It didn't feel like work, we were happy to experiment with ideas, and when it felt right we just kept moving forward."

Earthworm Jim had certainly been full of experimental ideas, but the stages being imagined for its follow-up upped the ante, with one being based around carrying cows! "We liked the game to be a roller-coaster," David

» [PC] It's worth beating the PC *Battle Arena Toshinden* in order to unlock Earthworm Jim as a fighter.

» The Nineties *Earthworm Jim* cartoon was in the works long before the original game came out.

» [SNES] Unlike Shiny's Mega Drive *Earthworm Jim 2* the firm's SNES version begins at night.



considers, "so there was running, shooting, new control systems, weapons, and of course you ended up as a defenceless naked worm at times. The goal was to keep the gamer on their toes. Cows were the mascot of Shiny, so they could be included anywhere and that would be just fine. Moo!"

The soundtrack for *Earthworm Jim 2* was Tommy's attempt to outdo its predecessor, in that he wanted to have even funnier music in the sequel than he had in the original. "You know what the *Earthworm Jim* games were? It was ten guys in a room trying to make each other laugh every day. So I'd use polka music or carnival music. Or we'd be in a dark cave, and I'd use Beethoven's *Moonlight Sonata*! Italian music is kind of funny – you wouldn't expect that! So *La Tarantella*, *Funiculì Funiculà*, I did a kind of combination of those two. I started thinking, 'Oh Peter Puppy's doing this, so let's put that tune in for that.'"

But while bouncing Peter Puppy around to Italian music brought fun to the follow-up, spanning multiple genres meant having fewer run-and-gun stages than the original. "There wasn't a conscious effort to have less shooting," Nick clarifies. "I just think everyone felt we needed to keep pushing boundaries, and keep things interesting for ourselves. Looking back, I wish we had more run-and-gun platform levels. It would have required more effort to make them feel fresh and creative, but I feel they're Jim's bread and butter levels."

Players' reactions reflected Nick's concerns on the sequel's release; it was a great game that fell short of Jim's first outing. Nick puts this down to its episodic nature. "The biggest problem I felt with *Earthworm Jim 2*, and all of its many gameplay styles, was that it felt less cohesive than the first one. The first game was kind of random, but it was held together by the characters: Heck was built around Evil The Cat, The Lab was built around the Professor – and so on. *Earthworm Jim 2* was much more random and loose. It was interesting in its own right, but it didn't feel like a singular vision like the first one did."

Although the Shiny team moved onto other projects after *Earthworm Jim 2* came out, the hero's animated TV show aired around this time, and he also appeared in print. "The cartoon was such an exciting step; we had a videogame, a toy line and now a TV show," David enthuses. "Doug worked closely on the creative side, and the result was funny! Then Marvel ended up doing an *Earthworm Jim* comic book series, which is now pretty rare – I saw a mint copy on eBay for $999."

In the following years, Earthworm Jim had cameos in *Clay Fighter 63 1/3* and the DOS version of *Battle Arena Toshinden*, then in 1999 he starred in two non-Shiny titles: *Earthworm Jim 3D* and *Earthworm Jim: Menace 2 The Galaxy*. "Interplay wanted Earthworm Jim to have cameo appearances in those games, and I had no issues there. It was just for fun!" David grins. "We had no problem with other people making *Earthworm Jim* games either; we just weren't involved in them."

Although he left 2D design behind for polygon-based development after finishing work on *Earthworm Jim 2*, Nick felt that ▶

GROOVY GUIDE TO NEW JUNK CITY

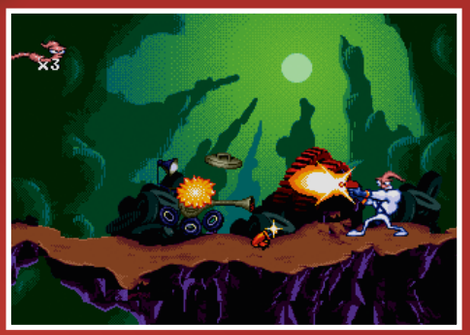
HERE'S HOW TO BEAT THE CRAZY FIRST LEVEL OF EARTHWORM JIM

JUST FOR LAUGHS

■ Head-whip the safe near the start to launch the cow! Then jump up the tower of tyres and leap left to get to the zip line. Jump off the end and head-whip left to hook the moose, then jump up the zip lines and warp down the toilet, where you'll find plasma blasters and a handy extra life.

IT'S A WORM'S LIFE

■ If you take the shortcut in the Just For Laughs tip you meet less foes, but take out those you do meet quickly. Watch for crows attacking from above, as they attach themselves to Jim's head. The dogs are deadliest when Jim's hanging from a chain, as they tend to go for his groin!



TAKING OUT THE TRASH

■ Mini-boss Billy The Bin is an animated trash monster that likes to dance, so when he does light him up with ammo while avoiding falling trombones. When he turns into a trashcan on wheels alternate between blasting and jumping over him to avoid contact, and you'll soon put him down.

▶ Shiny should have given its hero a trilogy. "I always had a feel about those games, not that I should compare them to Indiana Jones, but I felt like *Jim* was our *Raiders* and *Jim 2*, to me, felt like *Temple Of Doom* – so not as much fun but still good. But we never got a chance to make our *Last Crusade*, where everything would have normalised a bit and we could have attacked it with some fresh energy, so that was a little bit of unfinished business."

In 2006, that unfinished business was almost addressed, when an *Earthworm Jim* game for Sony's PSP was approved, with David and his former team on board. "I was trying to get the original *Earthworm Jim* team back together, funded by Atari. It was a thumbs-up from the key people, and so we started thinking of ideas. The problem was that Atari then told me that it couldn't fund the game. I ended up leaving Shiny, but I believe its internal staff continued to work on *Earthworm Jim PSP* for a while longer."

In light of his purely business role at Shiny before he left, it follows that David wouldn't have much to do with *Earthworm Jim PSP*, and as Tommy notes, the original team had no input at all. "We were trying to work on that, and we had meetings, and then it just kind of fell through with Infogrames and Atari. We gave an offer to do it for next to nothing, and they just passed on it. Then they started to do it internally, but it never came out. I think I played one level of it, and it just didn't look like *Jim*."

Following the disappointment of the PSP title, a new *Earthworm Jim* game was announced by Tommy in 2019 for the Intellivision Amico console, with many of the original team signed on. "When we started designing it we thought, 'What are some of the funny situations we could do?'" Tommy muses. "Then using the touchscreen, the gyroscope, accelerometer, speaker and microphone, and having multiple players – are you kidding me?! You know, it is *really* funny! So we're designing something unique just for the Amico, and that really enhances the joke aspect of it."

Reviewing the gameplay in place so far for the in-development Amico *Earthworm Jim*, Tommy highlights its accessibility, multiplayer mode and returning characters. "One of the things with the first two games was that they were difficult, so in that regard the new game will be more accessible and a little less frustrating. But the characters will be making a return, and because of the multiplayer aspect wouldn't it be cool if you could play as some of them? So you'll get an opportunity to play as Professor Monkey-For-A-Head!"

The long wait for the original *Earthworm Jim* team to continue their hero's adventures is nearly over, although a cautious Tommy (who has since stepped down as Intellivision's CEO back in February 2022) doesn't want to over-promise. "Because of the whole COVID crisis I would say that we're probably looking at 2023. We don't even have the name of the new *Jim* game exactly. The working title is *Earthworm Jim 4*, but I always thought it would be funny to call it *Earthworm Jim 3 – For Real This Time!* Just for a little controversy, and a little humour. But it really is the third game that the original team has worked on."

As an investor in the Amico, David is obviously fully behind the new *Earthworm Jim* title for the system, but he's also keen to see the character's new TV show. "Intellivision has managed to get the rights to make an *Earthworm Jim* game, and the support of the original team, so it technically stands the best chance of being authentic. I'm also really excited that Interplay is bringing back *Earthworm Jim* as a TV show. I'm not currently involved, so I'm just crossing my fingers and hoping that I like it when I see the final thing."

» [N64] Interplay Productions saw fit to include Earthworm Jim in its N64 brawler *Clay Fighter 63 1/3*.

When asked how he feels about the original game now, David reveals the effort that went into coding it, which explains why it still plays so well and feels so responsive. "It's become a bit of a cult hit at this point, but being the programmer, there's always stuff I wish I did differently. I care passionately about the *feel* of games, and you could pour thousands of hours into trying to get the *perfect* feel when controlling them."

Earthworm Jim's background artist and main level designer Nick Bruty has just as personal a view of the game. "I'm proud of all the *Earthworm Jim* stuff I did at Shiny. *Earthworm Jim* was fantastic, you know, being free from a major corporation, having our own independent studio, doing everything completely crazy and having people responding in a really positive way. It was an amazing experience, with one of the best teams I've ever worked with." ✱

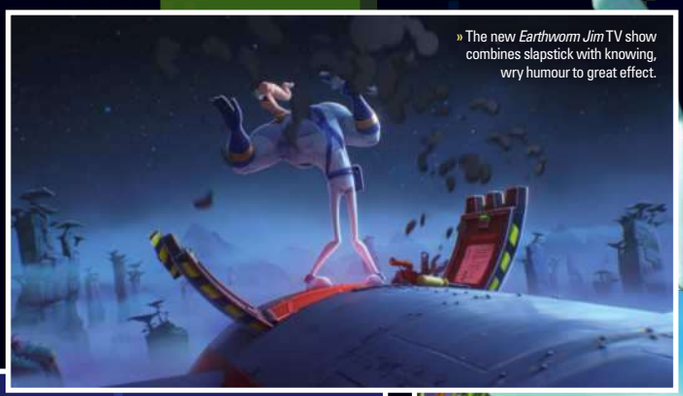
CROSSING THE LINE

New Junk City is full of unlikely ways to get around. As well as chains hung horizontally above hazards that Jim crosses hand-over-head, there are zip lines to slide down or blast your way along. There's even a conveyor belt that you have to clamber up while avoiding the junk on it.

WHAT'S UP CHUCK?

Junkyard boss Chuck is well-named – if you shoot or head-whip him he throws-up deadly fish! He operates a crane that drops crates, and you need to whip each one to the right and knock it onto a spring as he passes overhead. He'll vomit fish, but the crates will run down his energy.

"WE'RE DESIGNING SOMETHING UNIQUE JUST FOR THE AMICO, AND THAT REALLY ENHANCES THE JOKE ASPECT OF IT"
TOMMY TALLARICO



» The new *Earthworm Jim* TV show combines slapstick with knowing, wry humour to great effect.

» [Amico] The *Earthworm Jim* Amico title begins with its hapless hero crash landing his rocket on a beach.

THE EVOLUTION OF WipEout

AFTER MAKING GAMING HIP IN THE MID-NINETIES, THE FUTURISTIC PSYGNOSIS RACER WIPEOUT WENT ON TO INSPIRE A LONG LINE OF POPULAR FOLLOW-UPS. KEY CREATIVES, INCLUDING NICKY PLACE, ROB FRANCIS AND KARL JONES EXPLAIN HOW THE LONG-RUNNING SERIES KEPT ITS COOL

WORDS BY
RORY MILNE & DARRAN JONES

» [PlayStation] A CGI-rendered *WipEout* prototype appeared in the movie *Hackers* prior to the release of the PlayStation game.

Even among a strong line-up of European PlayStation launch titles, *WipEout* stood out from the crowd. The Psygnosis game's techno soundtrack, futuristic polygon visuals and breakneck speed were such a novel combination that it seemed like an immaculate conception. This was far from the case, however, as its designer Nick Burcombe had borrowed the game's mechanics from a SNES racer, and its concept artist Jim Bowers' gravity-defying ships had made their debut on the silver screen, as former Psygnosis creative Nicky Place points out.

"Nick Burcombe used to play *Mario Kart* while listening to really loud dance music, and he thought how ace it would be to develop a game that put those two things together," Nicky recollects. "Around that time, Jim Bowers was doing a sequence for the film *Hackers*, where the characters played a game with anti-grav racing ships, and that brought him and Nick together. Jim had also been instrumental in the look of the shoot-'em-ups *Microcosm* and *Novastorm*, but the shooting in *WipEout* was because of *Mario Kart*."

> "NICK BURCOMBE USED TO PLAY MARIO KART WHILE LISTENING TO LOUD DANCE MUSIC, AND HE THOUGHT HOW ACE IT WOULD BE TO DEVELOP A GAME THAT PUT THOSE TOGETHER"
> NICKY PLACE

In fact, *WipEout* had near-identical power-up mechanics to the popular SNES title. It even depicted its power-ups as icons painted onto its courses, which led to greater involvement in the project by its renowned cover artists. "That was a key element in *Mario Kart* – driving over speed boosts or whatever," Nicky acknowledges. "It was that thing of trying to force players to be on a particular part of the track. The icons were all developed by The Designers Republic, which was originally just going to be doing the packaging, but we wanted to make its designs a really key part of the game's aesthetics. So first and foremost it was about mechanics, and secondly we needed to think about what things were going to look like."

But while the collectible single-use weapons imprinted on *WipEout*'s tracks were down to Nintendo's racer, the Psygnosis title's ships were a product of the firm's earlier work. "Jim was developing lots of really cool concepts," Nicky enthuses. "He was driving a lot of the visual output and conceptual art at Psygnosis, as well as some of the tech he was using. He was the concept artist for the anti-grav ships, which he had built this amazing 'scratch' model for. I think the ships lent themselves so well to the gameplay. The idea was that you could actually *fly* a lapped track, which meant we didn't have to create the dynamics of a car stuck to a course." ▶

» [SNES] Although *WipEout* has its own style, its mechanics are largely based on *Super Mario Kart*.

» [PlayStation] Before *WipEout*, Pygnosis had made a string of other sci-fi games such as the shoot-'em-up *Novastorm*.

» [PlayStation] The future depicted in *WipEout* incorporates everything from idyllic countryside settings to dark dystopian vistas.

WIPEOUT

» Artist Nicky Place helped shape the look and style of the first three PlayStation *WipEout* titles.

» Rob Francis had design roles on *WipEout 2097, WipEout 64* and *WipEout Fusion.*

» *Wip3out* was one of the earliest projects that coder David Jefferies contributed to.

» After playtesting *WipEout Fusion,* Karl Jones was a designer on *Pure, Pulse, HD, HD Fury* and *2048.*

» Nick Roberts is head of studio at Amuzo Games and has overseen work on *WipEout Rush* and *Merge.*

» [PlayStation] Unlike the firearms in its predecessors *Microcosm* and *Novastorm*, the weapons in *WipEout* are single-use.

» [PlayStation] The anti-grav ships in *WipEout* allow you to pull off banked turns around the tightest of bends.

» [PlayStation] Unlike in the original, your ship blows up in *WipEout 2097* if you take enough damage.

Further freedoms stemmed from *WipEout*'s futuristic setting, although Nicky was keen that it should have a realistic look that wasn't too dissimilar to the 20th century. "The opportunities were that it was fun just to create things that had never been thought of before," Nicky reflects. "So billboards in the future, and things like giant walkways. But it was very much rooted in normality, even though it was futuristic, so there was stuff that you could have just been driving around. We were also playing with the idea that *yes* you might have these great metropolises, but there would also still be some natural world left. So there were rolling hills and mountains."

» [N64] *WipEout 64* brings combat-focused challenges to the series, where you dispatch quotas of opponents.

This leaning toward rural locations was driven by expediency as much as design, so much so that all but one of *WipEout*'s tracks was set in a natural environment. "There were questions about how we could make *big* things quickly, and I think Nick suggested that a track might be heading inside a mountain," Nicky ponders. "Whereas if we had made a big city there would have been a lot of detail we'd have had to put in there to make that believable. We could do *elements* of that when you got a very close view, but where you got a wide view we needed something *big* that wasn't going to take us forever to model."

The race to model courses was driven by the European PlayStation launch, which came nine months after work on *WipEout* had started, at which point it became the system's killer app. "The styling wasn't that far removed from the stuff that we had done before, the Psygnosis output was very sci-fi/futuristic, but then *WipEout* was a real shift," Nicky reviews. "It was bringing in that fusion of graphic elements, gameplay and music. A lot of people absolutely loved *WipEout* because of its music; that really hit a nerve. Gaming had been quite niche, then the PlayStation – and *WipEout* – were instrumental in making it really big."

Given the buzz around *WipEout*, its developers would have been aware of its success even if they hadn't left their Liverpool office, but they made a point of marking the occasion. "I remember we went over to Manchester on the launch day to a big HMV, and it was a big thing," Nicky says with a smile. "People were queuing up to buy it, so we just went over to see it in the store. I remember us all standing around looking and thinking, 'Wow!' Because *WipEout* was one of just six games, or whatever it was, and we couldn't believe we had managed to do it. It was an incredibly short turnaround."

One positive side effect of *WipEout*'s hurried creation was that a refined sequel was an obvious move, and as former Psygnosis designer Rob Francis points out there were elements of the original game's combat that could be quite easily built-on. "*WipEout* had weapons that slowed down the ships when they were hit, and so the natural extension to explore in order to make it a more exciting race was to actually *take out* enemy ships – and also to have the risk of being taken out yourself," Rob reasons. "We had a lot of fun with the AG Systems ships, which had the weakest shields. I have fond memories of linking up two PlayStations, so myself and coder Chris Roberts could go one-on-one with those!"

> *"THE QUAKE WASN'T IN THE ORIGINAL DESIGN – GLORY FOR THAT GOES TO CHRIS [ROBERTS]. HE GOT A LOT OF ATTENTION IN THE STUDIO FOR THAT."*
> *ROB FRANCIS*

As well as being fun, playtesting of the *WipEout* follow-up – *WipEout 2097* – also produced one of gaming's most memorable weapons and a useful visual effect. "The Quake wasn't in the original design – glory for that goes to Chris," Rob points out. "He was tinkering around one day, and realised that because of the simple geometry of the main track he could get a nice effect going that would kind of *ripple* down it. He got a lot of attention in the studio for that. You couldn't really escape it, because it was so long. Credit also goes to him for *2097*'s ship trails; you could actually see ships in the distance because of those."

Further enhancements over the original game came in the form of checkpoints that had to be reached before a countdown hit zero, although AI ships were exempt. "The AI couldn't miss a checkpoint because of their system, so basically they were always going to hit them," Rob explains. "More generally, the reason the checkpoints were introduced was really just to add urgency to the races, where you were always pushing forwards. So it was an extra moment-to-moment pressure for the player, but I balanced them fairly generously. So, as long as you were going forward and as long as you didn't get mined or missiled too much you were going to hit them."

» [PlayStation] Of the new weapons introduced in *WipEout 2097*, the Quake Disruptor is the most memorable.

STAGES OF EVOLUTION: EPIC ENHANCEMENTS

FROM E-PAKS AND STEALTH TO CONTROL JAMMERS

WIPEOUT 2097

Unlike the ships in the original, *WipEout 2097*'s ships can take damage, and can ultimately get blown up. The damage taken is reflected by an energy bar, and when it gets low your options are to collect shield power-ups or E-Paks, the second of which restores some of your lost energy.

WIPEOUT 64

You might imagine the Piranha II team's stealth power-up in *WipEout 64* would make its ship invisible to other craft – and it does. But there's more. The stealth enhancement also stops rivals from locking weapons onto Piranha II's vessel, and allows it to fly through opponents' ships.

WIPEOUT FUSION

There are a lot of interesting new power-ups in *WipEout Fusion*, and none more so than its Control Jammer. Quite simply, it reverses the steering and air-brakes of whoever it's fired at. Although effective on straights, the best time to use it is when a competitor is on a tricky bend.

STAGES OF EVOLUTION:

AWESOME ARMAMENTS

SHOCK WAVES, ENERGY DRAINS AND REPULSORS

WIPEOUT

The Shockwave weapon in the original *WipEout* could be seen as the predecessor to *2097*'s Quake Disruptor, in that a ship on the receiving end of a shock wave shakes and becomes uncontrollable for a short while. This doesn't look as impressive, but it can be more effective.

WIP3OUT

Although based on a simple mechanic of topping-up your ship's energy by draining another's, *Wip3out*'s Energy Drain projectile adds strategy to the game's races. Timing is everything, in that the optimal time to make full use of it is when it will take out an already failing craft.

WIPEOUT PULSE

The great thing about *WipEout Pulse*'s Repulsor is that it affects every ship in your immediate field of view. As well as draining some of their energy, a Repulsor will knock nearby rivals off-course, which makes it as effective in the game's combat-based events as it is in its races.

"WIP3OUT HAD A GROUNDED LOOK; IT WAS A FUTURE OF SOMEWHERE YOU ALREADY KNEW. THAT WAS BECAUSE NICKY AND MIKE LOVED FUTURISTIC INDUSTRIAL VISUALS"

DAVID JEFFERIES

Like *WipEout* before it, *WipEout 2097* was a hit on the PlayStation and was converted to other systems. Neither game was ported to the N64, but it did get a system exclusive. "*WipEout 64* had an even shorter production time than *2097*, so its courses were all mirror versions of *WipEout* and *2097* tracks," Rob remembers. "An opportunity came up at the studio, and there was a small window to quickly get out a version of N64 *WipEout* that would basically be a mixture of the two previous games on the PlayStation. All we really had time to do was just reverse the geometry, do a quick playtest to see if the tracks worked well in reverse and then dress them."

But despite its brief development, ship-specific 'Super Weapons' were introduced in *WipEout 64* to get players to try each craft out, including the unlockable Piranha II. "We knew that everybody had their favourite ship," Rob concedes. "Feisar had easy handling but was fairly slow, AG Systems had faster acceleration, then Auricom was the all-rounder and Qirex handled like an absolute boat, but was fast as hell! So I was trying to introduce something to make each one a little bit more special to give players a reason to explore some of the others. Piranha II was another Chris Roberts creation. I didn't do the handling for that, because only he could fly it!"

Soon after *WipEout 64*'s release, a visually reimagined follow-up was dreamt-up by Nicky Place and The Designers Republic's Mike Place, as coder David Jefferies recalls. "*Wip3out* had a grounded look; it was a future of somewhere you already knew," David observes. "That was because Nicky and Mike loved futuristic industrial visuals, but neither of them liked sci-fi. Another thing was that one of the programmers – Pete Bratcher – got the game to run in high definition, which gave it much cleaner lines, and he wrote some clipping algorithms, so there were no holes or popping. That really influenced the visuals, because we could have beautiful, smooth vector artwork in-game that mirrored Mike's prints."

To complement the game's graphical evolution, the track design and gameplay of the previous titles were overhauled, which resulted in real-world structures, combat modes and split-screen multiplayer. "We had a tool that the artists and designers could sketch out tracks with, export

» [PlayStation] The artists on *Wip3out* gave it an industrial look rather than an overtly sci-fi one.

them into the game and race on them, which meant quite fast iteration," David reviews. "The one set in the mall was by Nick Phillips, who was from Sheffield. It had a massive shopping centre called the Meadowhall, and that was why Nick did the big mall in *Wip3out*. Then when we added the split-screen mode we thought a little more battling would be cool – although you could also play the Eliminator mode as a single-player."

As with other aspects of the project, *Wip3out*'s split-screen two-player challenges came out of the game's tech, but its prototype courses were a product of visual design. "Because *Wip3out* ran in high-def I could put two square split-screens next to each other that were each the resolution of the original *WipEout*," David beams. "That was cool, because you could invite people around, have a few beers and play split-screen multiplayer together. The artists came up with the prototype courses, and they implemented those. They basically took a square texture, and gave it a cream centre and a dark outline around the boundary. Then they textured tracks with that, and it gave them this cool solid wireframe look."

» [PlayStation] *Wip3out* had an updated version for Europe called *WipEout 3: Special Edition* which featured tweaks and extra tracks.

Unsurprisingly, *Wip3out* won plaudits when it came out for its high-definition PlayStation visuals, by which point Rob Francis was imagining multi-course environments for a PS2 sequel called *WipEout Fusion*. "The goal was to get as much reuse of the environments as possible, because we were jumping to higher polygon counts, so the overhead of dressing tracks became much higher," Rob reasons. "Some had wide areas, which was inspired by the open plain podraces in *The Phantom Menace*. But because we couldn't link those to the track the camera had to follow the ship. In the earlier games it had been fixed to the track, which gave that floaty feel to the ships, so we lost that in *Fusion*."

A major gain for *WipEout Fusion* was its League mode, where credits were won for skill, lap times and damaging enemy ships, which could then be spent on upgrades. "We wanted to motivate players to upgrade each ship, to get a feeling of progression," Rob considers. "It also gave a long tail to the game. There had always been a relationship between *WipEout* and F1, so we even toyed with the idea of starting the player out with the choice of low-level teams, where they would have progressed through a career-type mode. That wouldn't necessarily have had a direct relationship with upgrading the ships, but it would have lengthened the whole experience for players." ▶

» [PlayStation] Unlike the original game, *Wip3out*'s multiplayer mode doesn't require linking two consoles together.

» [PS2] The wide-open areas of *WipEout Fusion*'s courses were inspired by the podracing in *The Phantom Menace*.

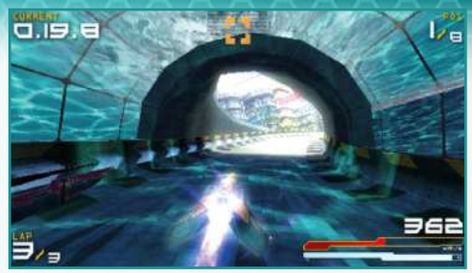
» [PS2] *WipEout Fusion*'s Zone mode challenges you to pilot a ship without brakes that keeps going faster.

Another of *WipEout Fusion*'s new features was Zone, a single-player challenge with a constantly accelerating ship without air-brakes, which had an unlikely inspiration. "I was playing *Tetris*, and thinking how we could express its mechanics in a racing game," Rob reveals. "*Tetris* would start pretty slow and then get faster and faster, and you would have to stay in the zone to beat it. So that was where Zone mode came from, and everything kind of fell into place from there. *Tetris* was also why it had a score. We considered it to be the ultimate show-off for hardcore players who could far surpass whatever we could design – even the Zone mode!"

Following positive reviews of *WipEout Fusion,* the series shifted to the PSP with *WipEout Pure,* which ditched its predecessors' pit stops in favour of recharging shields by absorbing weapons, as *Pure* designer Karl Jones notes. "It was just to keep the momentum of the game up, because going into pits broke up the races a little bit," Karl assesses. "We wanted to keep *Pure* a lot more about just racing and keeping up the speed. The ethos was to strip everything back, because *Fusion* had layered a lot of additional things in there. So '*Pure*' was the right name, because it was about losing anything that was extraneous and getting it right down to what *WipEout* was loved for originally, which was high-speed racing."

A couple of *WipEout Pure*'s other design innovations came from an unlikely source, but its barrel roll and side-shift moves worked so well that Karl gladly accepted them. "They actually came from a coder – Martin Linklater," Karl divulges. "He just did a barrel roll one day, and then showed us. He just did it off his own bat and we were like, 'Yeah! That's cool.' He also did the side-shift – with the double-tap of the air-brake. It was brilliant too. It was always good when other disciplines had got a good 'design head'. You just got a much smoother ride if they understood design fundamentals, and then to the extreme – when they brought you cool stuff – it was even better."

Track design was an equally important aspect of *WipEout Pure*'s development, and more specifically how the placement of its power-ups and weapons could influence players' racing lines. "One of the aspects I remember was the position of the speed pads," Karl muses, "and getting those so you had a trajectory out of a corner where you were hitting them, or forcing players to take a corner tighter, or giving them a choice between a weapon or a speed boost. That took a lot of iteration, because if they were in the wrong place it was really obvious, so there were a lot of tweaks on those."



» [PSP] Unlike the earlier games, in *WipEout Pure* you can replenish your shields by absorbing weapons.

Once PSP gamers got their hands on *WipEout Pure*, its popularity with them led to a follow-up being made for Sony's handheld, which an inspired Karl designed a grid-based challenge mode for. "We thought with hindsight that *Pure* was too linear, so we wanted to give players options, in terms of completing one thing and then getting a couple of options open up," Karl considers. "I was driving when we were trying to work this out, and I saw some chicken wire, and I was like, 'Ah! Shit, man! That's something we could do.' Subsequently it ended up in the game, and with grids you could force players down different paths, and take away harder events at the end of sprigs."

> "WE WANTED TO KEEP PURE A LOT MORE ABOUT JUST RACING AND KEEPING UP THE SPEED. THE ETHOS WAS TO STRIP EVERYTHING BACK"
> KARL JONES

Further efforts to make *WipEout Pulse* more accessible included an option to dial down the difficulty of its events, which would allow players to see more of the game. "Traditionally *WipEout* had always been hardcore – to say the least," Karl concedes. "But I guess with each iteration, certainly from when I was on the series, we would look at ways to make it a little more inclusive, and that was just an obvious thing to do. You know, difficulty levels, and just trying to allow players to progress a little bit more. So I guess with *Pulse* we started to get conscious of how hardcore things were, and started to layer that stuff in."

Another area of *WipEout Pulse*'s design took its lead from the gravity flip pads in one of *WipEout Fusion*'s courses, which flipped ships between ground and ceiling tracks. "Sometimes *Fusion* would suck the ships to the tracks in places, which allowed it to have some really crazy sections, and we wanted to do that!" Karl grins. "So we came up with 'mag strips' that allowed certain track sections to keep the ships on the track. That allowed us to do loop-the-loops, and sections where half the track was mag stripped. So if you went over an edge you would hug the track and fire straight down, otherwise you would launch off on a jump."

» [PSP] Double-tapping the air-brakes in *WipEout Pure* 'side-shifts' your ship left or right across the track.

» [PSP] The look of the unlockable grid-based challenges in *WipEout Pulse* was based on chicken wire!

» [PSP] *WipEout Pulse*'s loop-the-loops are made possible by 'mag strips,' which attach the ships to the tracks.

STAGES OF EVOLUTION:

TREACHEROUS TRACKS

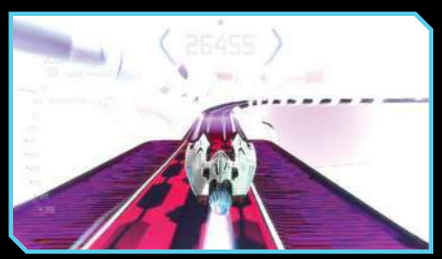
THE WIPEOUT COURSES TO WATCH OUT FOR

WIPEOUT PURE

Citta Nuova is *WipEout Pure*'s least-forgiving course. It's a string of S-bends and hair-pins with a few straights, but at least these sections are passable at a decent pace. Its pièce de résistance, on the other hand, is a right-angled turn that requires air-braking at a low speed.

WIPEOUT HD

Rather than one or two seriously tough sections, *WipEout HD*'s Metropia track is a series of taxing twists and turns, where air-braking and side-shifting is needed to stay on-course. The exception is a mag-stripped drop, where air-braking makes your ship barrel off the track sides.



WIPEOUT HD FURY

The series of narrow track sections in *WipEout HD Fury*'s Syncopia course basically count as platforming. They sit in a straight line, and you have to jump off each one to the next. But this becomes trickier each lap, as Syncopia is a Zone track where you speed up and can't slow down.

STAGES OF EVOLUTION:
COOL CRAFT

THE PROS AND CONS OF WIPEOUT'S VARIOUS ANTI-GRAV SHIPS

WIPEOUT 2097

Like *WipEout*, *WipEout 2097* has four teams, although each has just one pilot to the original game's two. To make up for this, *2097* has an unlockable fifth team named Piranha. Its prototype ship outdoes its rivals in terms of speed, agility and shields, but it doesn't have any weapons.

WIPEOUT PURE

The Harimau ship in *WipEout Pure* has an interesting backstory, in that it has zero emissions and is owned by a humanitarian organisation and not a profit-obsessed corporation. Aside from its poor shields, the Harimau FX300 hits a sweet spot, in so much as it has decent speed and handling.

WIPEOUT 2048

The *WipEout 2048* Pir-hana prototype is tough to unlock, but it's even tougher to fly! It has a chassis that's so slim that there's no room for steering or acceleration controls, and this means that you have to steer using its air-brakes while coping with the craft auto-accelerating.

"THE IDEA OF PUTTING WIPEOUT 2048 IN A CITY ENVIRONMENT WAS TO MAKE IT MORE RELATABLE, AND TO MAKE IT MORE OBVIOUS THAT IT WAS A RACING GAME"
KARL JONES

» [PS3] In *WipEout HD* it's game over when you explode, except in the online modes where you respawn.

» [PS3] In *WipEout HD Fury*'s Eliminator mode you can turn 180-degrees and target the competitors behind you. Sneaky!

The success of *WipEout Pulse* led to the PS3 title *WipEout HD*, which included tracks from both *Pulse* and *WipEout Pure*, and a new online mode with respawning ships. "Ships blew up a *lot* in the *WipEout* games," Karl qualifies, "so if we had kicked you out after your ship blew up you might have only got one or two ships finishing most online races. So we allowed players to come back in, but they were punished sufficiently with the respawn time. A lot of the time, they had a chance to get back into the game, because other players would crash out as well, or they might fire a Quake forward and find themselves in the front of the pack."

After the launch of *WipEout HD* on the PlayStation Network, an expansion pack *WipEout HD Fury* followed, which set fresh challenges such as a Zone Battle mode, where ships raced to hit targets. "Zone mode was really cool, so it was how could we do an *online* Zone mode?" Karl contemplates. "With hindsight, it got quite complex, and I think it was difficult for people to grasp. But one of the reasons why it fitted was the aggressive nature of *Fury*. So it just evolved from wanting to have some form of Zone mode online, and over time it became what it was, where you were dropping shields and stuff. It was those aspects that I thought were a step too far."

Another interesting test of skill came in the form of *WipEout HD Fury*'s Detonator, where a single ship had to clear explosives by blasting them to pieces. "I seem to remember that the Detonator mode just came from a brainstorming session," Karl ponders. "It was out of a desire to do more with the engine, and to do more with the fundamental idea of having a ship going around a track. When we first started to make it we were hand-placing the mines on the courses, but they ended up being dynamically generated. I think it was a semi successful mode, but not dissimilar to Zone Battles I think it was maybe a little bit forced."

Nevertheless, the feature-rich *HD Fury* was applauded on its release. Its follow-up was a PS Vita launch title and a prequel to the original game, with races on city streets rather than on custom-built tracks. "The idea of putting *WipEout 2048* in a city environment was to make it more relatable, and to make it more obvious that it was a racing game," Karl explains. "So there were traditional buildings and road surfaces with barriers that you might see at an F1 in Monaco. Then whenever the track behaved differently from a road the artists would bring in an augmented section of track that looked like it had been brought in for the race – similar to the way that the streets of Monaco are adjusted to accommodate F1."

Further efforts to increase *WipEout 2048*'s relatability included the inclusion of wide-open roads. These also gave more chances to fire weapons, which were colour-coded to deliver more strategic races. "The wider tracks were to accommodate people who liked traditional

» [PS Vita] Having wide-open roads instead of narrow tracks in *WipEout 2048* gives more opportunities for combat.

» [PS Vita] *WipEout 2048*'s city setting allows for crazy scenarios such as racing up and down skyscrapers.

racing games – the fact they allowed for more combat was a side effect," Karl clarifies. "One thing we did in regards to the weapons and power-ups was to split them into defensive, offensive and speed boosts using the colour of the pads. So there was a little more strategy. Another thing was the combat spin, where you spun 180-degrees and fired backwards. We also reduced the air-brakes to one button, so people could use it like a handbrake."

The level designs for *WipEout 2048* were another key consideration, and they benefitted from its urban setting perhaps more than any of the other aspect of the game. "Because a lot of *WipEout* tracks had elevation we had the earlier *2048* tracks lower to the ground, and then we built up," Karl reviews. "It allowed us to do crazy stuff – like going up the side of skyscrapers and back down the other side. We also had shortcuts we called 'skill cuts', where, for example, we could make a split and put speed pads down an alleyway and weapon pads on the other path. Then we finished the game on Altima – a nod to the next game chronologically; the very first *WipEout*."

In more recent years the *WipEout* series has been somewhat dormant. 2017 saw the release of *WipEout Omega Collection* on PS4, a compilation which comprised *WipEout HD*, its *Fury* expansion and *WipEout 2048*. Notably, it was the first release in the series to not be coded by Studio Liverpool, which had closed in 2012 – the same year *WipEout 2048* was released.

» [PS Vita] Many of the tracks in *WipEout 2048* are more grounded than the elevated tracks of later games.

» [PS Vita] It wouldn't be a *WipEout* game without notable ships like the Piranha vying against others for first place.

» [iOS] Nick's proud of the new characters and storylines introduced in *WipEout Rush*. "It's very clever you know – the comic books actually update live in the game based on the ships you select to race with!"

» [iOS] It wasn't the *WipEout* that many expected but *WipEout Rush* proved Sony still sees value in the licence.

WIPEOUT COURSE GUIDE:

SILVERSTREAM

BRANCHING OUT

Just after the opening straight, there's a Y-junction. The left track is trickier but shorter, so take that. After the upward slope steer left with the left air-brake on to make the tight turn, then hit the right air-brake just before the foot of the downward slope to stay on the track.

ROUND THE BEND

Silverstream's first cave has a nasty S-bend, although the first turn just requires you to ease off on the accelerator. The second turn is insanely tight, however, so dodge the speed pad just before it and then cut your speed down to a minimum in order to avoid hitting the cave wall.

SPLITTING UP

There's not much between the left and right branches of Silverstream's second Y-junction, they're both short paths up and down a hill, but the course's third split is another matter. Be sure to take its left track, as it can save you up to five seconds and move you ahead of rivals.

CRAZY CORNERING

Although shorter, the left branch of Silverstream's third junction is like a plate of spaghetti! Air-braking is essential, but you'll also need to slow down before certain bends to keep clear of the track sides. Avoid using the speed pads on this section until you've memorised it.

» [PS4] The studios XDev, Clever Beans and Creative Vault Studios all worked on Sony's *WipEout Omega Collection*.

» [PS4] *WipEout Omega Collection*'s VR mode allows you to experience the world of *WipEout* in an exciting new way.

▶ Aside from updated HD visuals and the ability to listen to a 'Best Of *WipEout*' Spotify playlist if you had the PlayStation Music app installed, the biggest upgrade was the ability to play the entire game in VR if you had a PSVR headset. It was a remarkable achievement that put you in the cockpit of your favourite vehicle and immersed you in a way earlier games in the series simply couldn't manage.

Excitement for *WipEout* was later reignited in 2021 with the announcement of *WipEout Rush*, but that enthusiasm was soon dampened when it was revealed to be a card-based management game for mobile phones. Coded by Amuzo Games and published by Rogue, the reception to the game wasn't that much of a surprise to Nick Roberts, Amuzo Games' head of studio. "The *WipEout* community had set their hearts on a new *WipEout* game for PS5, and rumours were flying around about a new game coming soon," he elaborates. "Then we announced *WipEout Rush* for mobile. So I think we got to experience their wrath for a while, with a bit of organised review bombing from a subReddit. It's all calmed down now, with the same people actually enjoying the game after giving it a try."

And trying it was important, because while it didn't play like a traditional *WipEout* game, Amuzo Games had still managed to capture many aspects of the series that have made it so beloved. "The aim with *WipEout Rush* was to create a mobile gaming experience in the *WipEout* universe," continues Nick. "We all just loved the franchise and wanted to bring it to new audiences. Our game had the familiar tracks, ships, teams and weapons of PlayStation *WipEout*, but it was married to idle merge gameplay and simplified racing for a gamer on the go." One of the main reasons for the authenticity that Nick mentions is down to the support the studio had from Sony. There might not have been a main console release since *WipEout 2048*, but Sony still clearly cared about its franchise. "As an ex-PlayStation magazine editor [having access to assets] was the biggest thrill of working with Sony on *WipEout Rush*," admits Nick. "We got to sift through the assets of all the big PlayStation *WipEout* games to create our mobile game. The 3D models of tracks and ships were taken by our art team and given a comic-themed polish up and optimised for mobile. Then for authenticity the voice over and sound effects were used wherever we could fit them in. Our music was brand-new tracks from one of the original musicians too, so it was an authentic *WipEout* experience."

Of course, for anyone that has played the most recent build, you'll have noticed that the racing sections featured in the game aren't actually playable. While this will no doubt upset some, Nick is keen to point out that mobile games do constantly evolve. "The thing about mobile games is they are more a 'games as a service' model where we are constantly making improvements and changes to the game mechanics to create a game that players love and that works from a business point of view," he points out. "*WipEout Rush* has now been renamed *WipEout Merge*, and we are still in soft launch, experimenting with various game setups to give it the best chance. As a free-to-play game, the goal is to attract as many players as possible and keep them playing as long as possible. Playable races is an idea that is on the table, along with many other things."

WipEout Rush might not have been the game that many fans expected, but its latest update is still worth investigating if you're a fan of the *WipEout* games, and its success will hopefully lead to Sony seeing the potential of the series on big consoles again. PSVR2 is just around the corner and we can't think of anything more exciting than experiencing a new *WipEout* game on it. For now, though, we'll just have to wait.

Given that the original *WipEout* made gaming cool overnight, Nicky is modest about her contribution, although she recognises its impact. On the future of the futuristic series, she plays devil's advocate, and leaves her answer open to interpretation. "I look back at *WipEout* with mixed emotions," Nicky reflects. "It's so easy to look at it out of context of the time, but I'm incredibly proud of it and what was achieved by everybody – I played a small part in its creation; really it was down to Jim and Nick. Aesthetically, future *WipEout* titles would be down to what we think the future is going to look like: a dystopian one or perhaps one where nature has completely taken over. So it would depend on what everybody thinks the future holds." *

Pir-hana prototype screenshot courtesy of Lukwtwz, additional *WipEout 2048* shots courtesy of Thomas Cannon.

HOW TO WIN ON WIPEOUT'S CHALLENGING GREENLAND TRACK

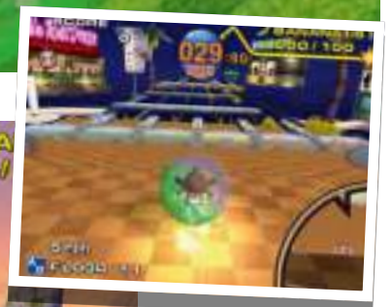
INSANE CHICANES

Where the left track of the third Y-junction rejoins its counterpart hit the left air-brake, or you'll hit the track side. The following stretch leads back to the starting line, but it connects at a near right angle, so air-brake right and slow down on approaching the chequered grid.

ULTIMATE GUIDE

SUPER MONKEY

» [GameCube] They're small and cute and they dance too! How utterly charming.



» [GameCube] The famous 'guitar' level. Did you dare to attempt the 0.1 diameter wires in pursuit of extra bananas?

» [GameCube] The final Beginner floor presents the game's first real challenge, as you wobble along a narrow track to the goal.

AS SUPER MONKEY BALL CELEBRATES ITS 21ST ANNIVERSARY, WE TURN THE CLOCK BACK TO 2001 WHEN AIAI AND HIS PALS SPUN ONTO THE GAMECUBE AND CAPTURED GAMERS' HEARTS WITH THEIR PUZZLING PLATFORMS AND PARTY GAMES. LET'S ROLL!

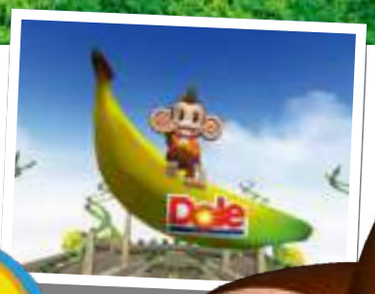
WORDS BY MARTYN CARROLL

***Super Monkey Ball* was surely the biggest surprise in the GameCube's launch line-up when the console debuted in 2001.** Sega's game was not an unknown quantity, as positive word of mouth spread following its reveal at the Nintendo Space World show in Tokyo. There, where the public were able to sample GameCube software for the very first time, *NGC Magazine* reported that, "It was the game of the show for many people." This was some statement to make, particularly as Sega's game was competing for attention with two first-party launch games, *Luigi's Mansion* and *Wave Race: Blue Storm*, a sequel to the acclaimed N64 game.

Yet, there were still question marks about the name, the look, the whole concept of monkeys rolling around in transparent balls, collecting bananas and trying not to tumble into the abyss. Was it too quirky, too cutesy, too oddball? Admittedly, it wasn't an impenetrable Japanese RPG or a human-faced fish simulator, but would this crazy mix of simian mayhem work in the West? That was quickly answered when the import reviews for the game started to appear in the press. Both *NGC* and *Edge* scored *Super Monkey Ball* higher than *Luigi's Mansion* and *Wave Race: Blue Storm*, with the former awarding it 92% and calling it, "A great concept beautifully executed," and the latter summing up its 9/10 review with a single word "genius".

The Japanese launch line-up was significantly bolstered when the GameCube arrived in the West (where everyone briefly went gaga over *Star Wars Rogue Squadron II: Rogue Leader*), but *Super Monkey Ball* remained the stand out

BALL



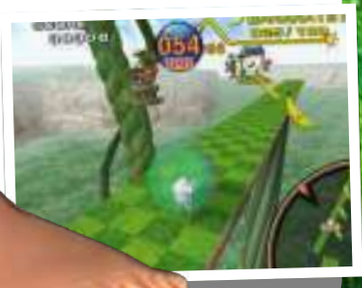
title for many gamers. Referring to one of Sega's other launch titles, *Sonic Adventure 2: Battle*, *Nintendo Official Magazine* opened by saying "*Super Monkey Ball* is as magical as any blue hedgehog", and concluded that "this deserves to be in every gamer's collection". *CUBE* magazine was also full of praise for Sega's game in its glowing 93% review, "Some of the best games ever have also been some of the simplest. This isn't hyperbole: *Super Monkey Ball* is the best GameCube title of them all."

We'd argue that *Super Monkey Ball*'s inherent simplicity was key to its huge appeal. The GameCube's controller was bristling with ▶

"[TOSHIHIRO] NAGOSHI DECIDED TO PULL TOGETHER A TEAM OF FIVE PEOPLE AND DEVELOP A SIMPLE GAME WITH A BARE MINIMUM OF RESOURCES"

» [GameCube] Another early challenge sees you negotiating moving platforms. Do you go straight to the goal or grab all the fruit first?

» [GameCube] Due to the difficulty of some floors, the commentators cry of 'Fall out!' soon becomes ingrained in your brain.



MINIGAME MAYHEM

THE BEST MINIGAMES FROM ACROSS THE SERIES

MONKEY TARGET

SUPER MONKEY BALL

The obvious place to start, with not just the best minigame in the series, but one of the best ever devised. Players take turns to try and hit the target and score the most points. The format was tweaked in subsequent games, but the original version was already perfect.

MONKEY RACE

SUPER MONKEY BALL

This simple kart-style racing game provides a nice change of pace (literally) to the more tactical minigames. It features six courses, which can be raced individually or as part of a grand prix, and has a bunch of power-ups you can use to get an edge against your three rivals.

MONKEY GOLF

SUPER MONKEY BALL

Mini golf with monkeys! It couldn't fail really. This was the only minigame in the original that was overhauled for the sequel, becoming a regular game of golf, but for us it's more fun in its putt-putt form. There are 18 holes in total and some are pretty damn tricky.

MONKEY BOWLING

SUPER MONKEY BALL 2

Another classic minigame which was updated for the sequel, but this one didn't mess with the winning formula, and instead added a separate Special Mode which introduced wacky lanes. The *Banana Blitz* version is also recommended as you can play with the Wiimote.

MONKEY TENNIS

SUPER MONKEY BALL 2

A-ha! We never got to watch simian racket sports on the Beeb but we could play it (providing we spent 2,500 points to unlock it). It's fairly simple, as you would expect, but very entertaining playing against friends or COMs in singles or double matches.

MONKEY DOGFIGHT

SUPER MONKEY BALL 2

Another of the new minigames introduced in the sequel. While aerial combat with monkeys might sound like it's clutching at straws, it works really well, playing a little like the multiplayer mode in *Star Fox 64*. There are three arenas and it supports up to four players.

MONKEY BOUNCE

SUPER MONKEY BALL ADVENTURE

Of the three new minigames introduced in *Adventure*, this is easily the most compelling as you use just the analogue stick to bounce around the board, flipping the squares to your own colour. Additional boards can be purchased in the main game by spending bananas.

MONKEY HOCKEY

SUPER MONKEY BALL TOUCH & ROLL

The DS version features a mix of old and new minigames, and the gem is this spin on air hockey which works really well with the stylus. Of real interest is the Line Smasher mode where your bats are chipped away every time you hit the disc. It's absolutely perfect for link-up play.

» [GameCube] The bonus floors let you stock up on supplies, safe in the knowledge that you can't die (for once).

» [GameCube] Risk versus reward. Is it worth potentially losing a life to grab a bunch of bananas?

» [GameCube] In the multiplayer Competition Mode you race your rivals to the goal.

» [GameCube] The wonderful Monkey Target was a firm favourite with fans, who naturally objected to the changes made to it in the follow-ups.

buttons yet players used just the analogue stick to control the game (this was made even easier thanks to the octagonal gate found at the stick's base). The general idea, which owed an obvious debt to Atari's fantastic arcade hit *Marble Madness*, was to steer one of four encapsulated monkeys through perilous 3D levels, to reach the goal before the time ran out. Rather than control your sphere directly, like *Marble Madness*, you moved it by tilting the floor itself. It was so beautifully simple that anyone, regardless of age or ability, could pick it up and play.

This simplicity was by design. The game was produced and directed by Toshihiro Nagoshi, who joined Sega in 1989 and earned key credits on *Virtua Racing*, *Daytona USA* and *Shenmue* before moving on to create the acclaimed *Yakuza* series. Around 2000, when Nagoshi was heading up the Amusement Vision (AV) development team at Sega, he was asked by his bosses why creating games had become so expensive. He initially shrugged it off, but then decided to pull together a team of five people and develop a simple game with a bare minimum of resources, to show the suits that it was still possible. Three months later he'd produced *Monkey Ball*, a fun arcade game that ran on Sega's Naomi arcade hardware. The original coin-op is largely overlooked these days, but the core game was fully templated in the arcades. So when Sega joined forces with Nintendo to support the GameCube, *Monkey Ball* was an obvious candidate for a conversion to the console, and it was simple enough to have it ready at launch (complete with enough enhancements to make it *Super*).

The game's arcade origins are the reason why there's no back story to answer those unnecessary questions like why are those poor monkeys trapped in balls and what the hell the overall objective is. And because you didn't want credits lasting too long in the arcades, it's also why the game featured such a steep difficulty curve. It started easy enough on the ten-floor Beginner level, but as you progressed through the thirty-floor Advanced and fifty-floor Expert levels, you quickly realised that this was no roll in the park. The wide-open floors soon gave way to twisted, labyrinthine mazes where reaching the goal became a torturous obsession.

> **"THE WIDE OPEN FLOORS SOON GAVE WAY TO TWISTED, LABYRINTHINE MAZES WHERE REACHING THE GOAL BECAME A TORTUROUS OBSESSION"**

Amusement Vision deserves praise for not reducing the difficulty in the GameCube version. In fact, on the coin-op, there was a single Master floor for those who somehow managed to

PLAIN OL' MONKEY BALL

A LOOK AT THE GAME'S ARCADE ORIGINS

If you wondered why the original GameCube game carried the *Super* moniker, it's because it wasn't the first title in the series. Debuting in Japanese arcades in May 2001, *Monkey Ball* is perhaps best described as the 'final beta' for the GameCube version, which was released four months later. The main game is almost identical, with the same floors in the same order – it just looks a bit prettier on the GameCube. The chief difference is that *Monkey Ball* was designed for single players, which means no Competition Mode and crucially no minigames. This is why the coin-op only features three playable monkeys – AiAi, MeeMee and Baby – as GonGon was added later to support four-player multiplayer on the GameCube. The one feature the console absolutely couldn't compete with was the original's controller – a curious banana-shaped joystick that you gripped to play. To say it stood out in the arcades would be an understatement.

Monkey Ball ran on Sega's Naomi GD-ROM system, which obviously made it a prime candidate for a Dreamcast conversion. In fact, it was reported in early 2001 that Amusement Vision was busy doing just that, and you can imagine that it would have been perfectly at home on the console. But following Sega's decision to quit the console race, development was shifted over to GameCube where the enhanced version delivered results for both Sega and Nintendo – something that seemed unthinkable just 12 months earlier.

» Comparing the arcade (above) and GameCube (below) versions. All floors feature the same Sega blue sky background.

» [GameCube] Shades of *Sonic* here as you negotiate one of the later floors.

» [GameCube] The game features an interactive credits sequence, where you try and grab bananas while avoiding the falling letters of the team members' names.

MINIATURE MONKEYS

A LOOK AT THE HANDHELD VERSIONS OF SUPER MONKEY BALL

SUPER MONKEY BALL JR

FORMAT	GBA
YEAR	2002

The troop's first handheld outing is a limited version of the first game, featuring seventy-four floors and four minigames. Controlling the game using the d-pad is fine, and the graphics are very good for a system that traditionally struggles with 3D. A pared down Nokia N-Gage version followed.

SUPER MONKEY BALL: TOUCH & ROLL

FORMAT:	DS
YEAR:	2006

This more substantial handheld release features 120 floors (spread across twelve different worlds) and six minigames (three old, three new). It supports stylus control, which works well but ramps up the difficulty, meaning most will cop-out and simply play with the d-pad instead.

SUPER MONKEY BALL 3D

FORMAT	3DS
YEAR	2011

This 3DS launch title was evidently rushed, with a total of eighty floors and just two minigames (both poor). The controls are the real issue however: you can use either the circle pad or the tilt sensor to control your ball, and it's too easy with the former and too hard with the latter.

SUPER MONKEY BALL: BANANA SPLITZ

FORMAT:	VITA
YEAR:	2012

Like the 3DS game, the Vita version lets you use tilt controls if you wish, but thankfully the game wasn't designed with them in mind, so it's still challenging using the analogue stick. It looks amazing and content-wise features one hundred floors and eight minigames.

"THE FOUR-PLAYER PARTY GAMES WERE GREAT FOR GATHERINGS, WITH MONKEY TARGET SESSIONS OFTEN EXTENDING INTO THE SMALL HOURS"

complete Expert (and the bonus Expert Extra floors) without using a continue, whereas on the GameCube an additional nine Master floors were added. This brought the total number of floors to 118 and the result was a hardcore challenge; a true gamer's game.

Of course there was more to *Super Monkey Ball* than just the main game and it's the reason why your Aunty Joan and Uncle Alan also played. To widen its appeal to as many gamers as possible, AV added multiplayer support that was focused around six entertaining minigames. Three of these (Monkey Race, Monkey Fight and Monkey Target) were available to play immediately, while the others (Monkey Billiards, Monkey Bowling and Monkey Golf) could be unlocked once you'd earned enough points in the main game. These four-player party games were great for gatherings, with Monkey Target sessions often extending into the small hours. [We played it all the time on *games™* – Ed] They also provided perfect respite from the main game's tougher challenges. They were critical darlings too. NGC wrote, "*Super Monkey Ball* takes the crown of Best Party Game from *Mario Party*, and is a contender for Best Multiplayer Game too." More than one publication claimed that the game offered the best multiplayer thrills on a console since *GoldenEye*, which was high praise indeed when you consider the many accolades that Rare's game had picked up.

The formula was set and a franchise was born, with each subsequent game in the series pairing up a challenging single-player roll-a-thon with an equally joyful multiplayer experience. *Super Monkey Ball 2* arrived 12 months after the original game and in many ways was the perfect sequel. The main game now featured 140 floors to master and each difficulty level (including Master) included ten Extra stages. In addition there was a new Story Mode which, aside from a pointless plot involving the evil Dr Bad-Boon (who's trying to pilfer bananas or some such), introduced a new progression structure where floors were organised into groups of ten which could be attempted in any order and with unlimited retries. This meant that if you hit a brick wall you could still proceed and return to it later. This also meant that some vocal fans of the original complained that Sega had bowed to pressure and made the game easier. In some ways this was true, but the difficulty curve went perpendicular when you reached the Master floors so there was still a ridiculous amount of challenge for pro Monkey Ballers.

IT'S A BIT TRICKY!

THE SUPER MONKEY BALL FLOORS THAT WILL MAKE YOU BAWL

EXAM-C

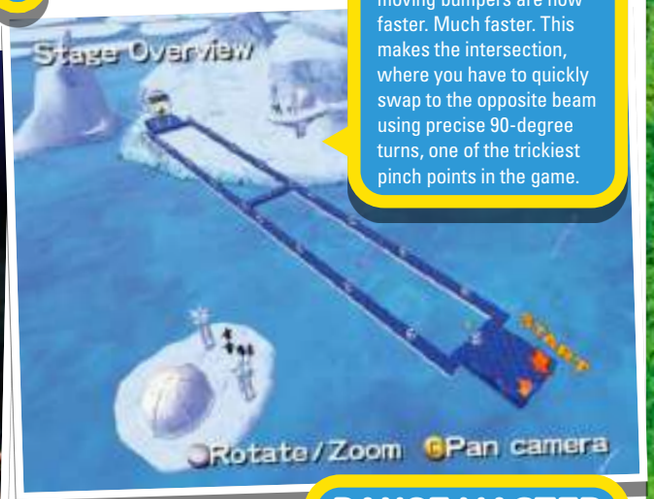
FLOOR: EXPERT 7

The third 'test' floor is one of gaming's most famous difficulty spikes. Arriving early in Expert, you're faced with a sprawling floor that features a nasty ramp and a snaking finish. Compounding all of this is the 60-second time limit. Beat this and you can beat anything.

SPEEDY JAM

FLOOR: EXPERT 36

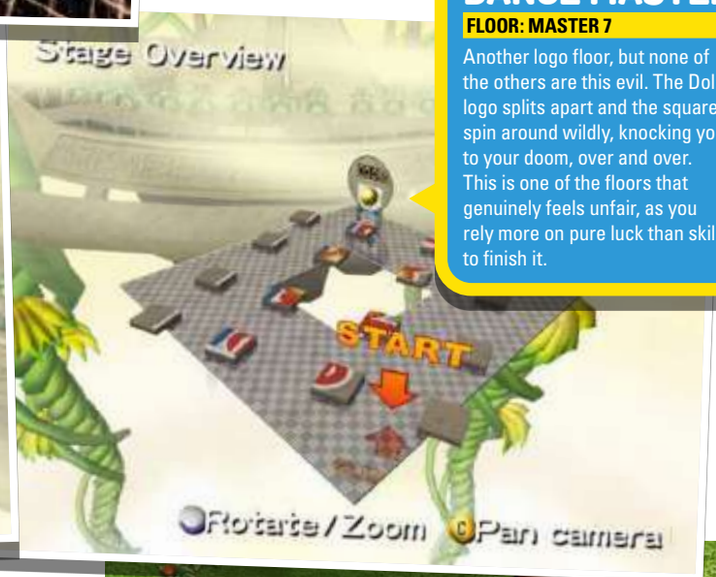
An update of the earlier Middle Jam, but as the name suggests, the moving bumpers are now faster. Much faster. This makes the intersection, where you have to quickly swap to the opposite beam using precise 90-degree turns, one of the trickiest pinch points in the game.



DANCE MASTER

FLOOR: MASTER 7

Another logo floor, but none of the others are this evil. The Dole logo splits apart and the squares spin around wildly, knocking you to your doom, over and over. This is one of the floors that genuinely feels unfair, as you rely more on pure luck than skill to finish it.



STAMINA MASTER

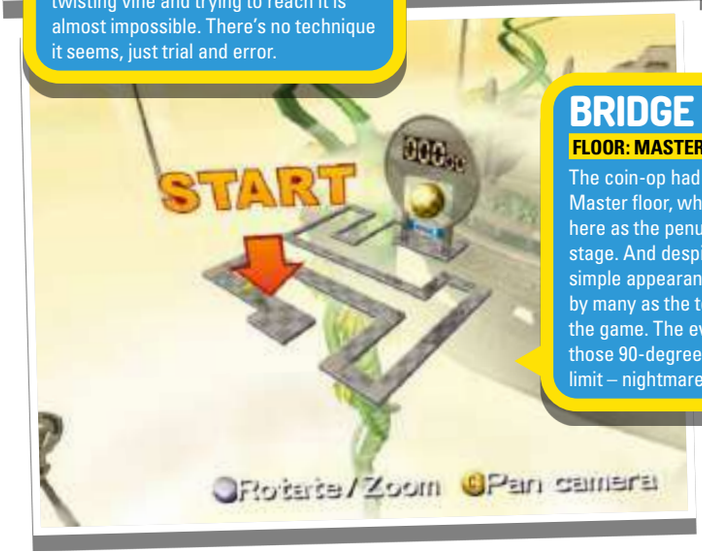
FLOOR: MASTER 3

If you thought Expert level was as tough as it could get, welcome to Master and this little beauty. The opening section is OK, but the goal lies at the foot of that twisting vine and trying to reach it is almost impossible. There's no technique it seems, just trial and error.

BRIDGE MASTER

FLOOR: MASTER 9

The coin-op had just a single Master floor, which appeared here as the penultimate Master stage. And despite its fairly simple appearance, it's regarded by many as the toughest floor in the game. The ever-thinning path, those 90-degree turns, that time limit – nightmare.



THE MINI MAKING OF: SUPER MONKEY BALL ADVENTURE

CREATIVE DIRECTOR PAUL GARDNER REVEALS THE STORY BEHIND THE BLACK SHEEP OF THE SERIES

How did Traveller's Tales become involved in the series?
Sega had a long-standing relationship with Traveller's Tales going back to the *Sonic* games. I was part of the team at Traveller's Tales Oxford and we'd not long finished development on *Crash Twinsanity*. Sega's producers were apparently looking for a game with a similar style and sense of humour, so *Super Monkey Ball Adventure* was assigned to us.

Where did the idea to produce a story-driven adventure come from?
That was part of Sega's brief. We were given a story bible that had been created by Amusement Vision for the original two games and there were lots of interesting ideas in there to draw from. We talked to Toshihiro Nagoshi a couple of times during production, first about the project as a whole, then later for feedback on the gameplay. We developed the story outline in co-operation with Sega, who didn't want there to be enemies in a traditional sense as it was looking for scenarios where problems were solved through co-operation. Sega gave us a list of real-world issues to use as inspiration for the problems the monkeys would encounter. It was pretty tough. How do you solve socio-economic and political problems by rolling around picking up bananas?

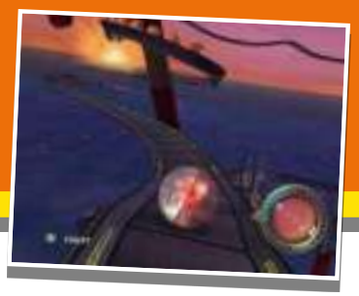
Quite. What did you do?
We realised that a lot of the problems on the list were driven by fear – of the unknown, of change, of losing power, or whatever. So that little abstraction gave us a good framework for designing the goals and our enemies became a manifestation of those fears.

Did any games influence the design?
Super Monkey Ball 2 was the biggest influence for us, in terms of tone, design, story and characterisation. *Jak & Daxter* was something we studied in a lot of detail, and Rare's games were definitely a big influence on the studio, especially *Conker's Bad Fur Day* which was an amazing showcase for what was possible in the integration of gameplay, story and humour.

"NAGOSHI TOLD US THAT HE REALLY LIKED OUR VERSIONS OF THE CLASSIC MINIGAMES"
PAUL GARDNER

Were there any notable challenges during the development?
The tone of the game was hard to get right. Sega wanted a similar sense of humour to *Crash Twinsanity*, but that was dependent on the performance and delivery of the voice actors, whereas the dialogue in *Super Monkey Ball Adventure* was all text-based. So, the rhythm of the story and style of humour ended up being very different.

On reflection, how pleased were you with the finished product?
I would say it's close to being a great game, which might sound like faint praise, but there is so much to like about it. Looking back now I'm happy about how well the adventure elements hold up. I feel like the team put a lot of care into the puzzle stages and the minigames, too. Nagoshi told us that he really liked our versions of the classic minigames. I think conceptually there's perhaps some tension between the adventure format and the traditional puzzle stage gameplay. Although the first few games are very cute stylistically and the sequel has a story mode, beneath that they're both pretty hardcore action puzzle games. For those players who love that kind of challenge the story isn't so important, when conversely that's what *Super Monkey Ball Adventure*'s main focus is. So we were maybe at risk of alienating the existing audience, while the mechanics were perhaps too tough for newcomers to get to grips with. Are those two things reconcilable? I'm not sure, but we gave it our best shot.



SIMIAN SEQUELS

WHERE THE MONKEYS ROLLED TO NEXT

SUPER MONKEY BALL 2

FORMAT: GAMECUBE ■ YEAR: 2002

■ Arriving in short order, the sequel provides more of everything that made the original a hit. This means more floors with new features (including switches and seesaws), double the number of minigames and even a story mode. For many fans this is the definitive entry.

SUPER MONKEY BALL DELUXE

FORMAT: PS2/XBOX ■ YEAR: 2005

■ A mid-priced 'greatest hits' package for non-Nintendo consoles, including everything from the first two games plus loads of exclusive floors. Playing this on PS2 and Xbox makes you realise that the GameCube's analogue stick is still the best way to play original games.

SUPER MONKEY BALL ADVENTURE

FORMAT: VARIOUS ■ YEAR: 2006

■ The game that no-one asked for is not the dud some would have you believe. Even if you skip the adventure portion completely, there's still enough content with the new floors and minigames to make it worth your while. The PSP version includes exclusive features.

SUPER MONKEY BALL: BANANA BLITZ

FORMAT: WII ■ YEAR: 2006

■ Two new monkeys, Doctor and YanYan, make their debut in this uneven update that's frontloaded with 50 minigames (Monkey Darts anyone?) Whether you dig the Wiimote controls is down to personal preference, but most would agree that the bosses are duff.

The included minigames also attracted a little controversy. There were now twelve minigames – six new, and six from the original. Those that returned were tweaked and the new changes weren't welcomed by everyone. Alarmingly, fan favourite Monkey Target was meddled with, and the introduction of formation flying and power-ups diluted the original's instant appeal.

Reports claimed that a second sequel was coming to the GameCube in early 2004. Subtitled *Banana Crazy*, *Super Monkey Ball 3* was expected to include eight-player support over LAN, but Nagoshi has since claimed it was just a rumour – despite the name and logo being trademarked by Sega. A third game for the series did arrive in 2005, but this was an amalgamation of the two GameCube games for the PlayStation 2 and Xbox. *Super Monkey Ball Deluxe* included all of the floors from both games, plus dozens of new ones to bring the total number of floors to a twitch-inducing 300. The 12 minigames from *Super Monkey Ball 2* returned, and for the purists there was an option to play the original *Super Monkey Ball* versions where available (and Monkey Target fans did rejoice). Interestingly the PS2 version runs at half the framerate of the GameCube games, while the PS2 and Xbox pads both lack the octagonal gate of the GameCube's pad which make both versions slightly trickier to play as a result.

Another entry would grace the GameCube in 2006, although it perhaps wasn't the game fans were expecting. *Super Monkey Ball Adventure* ditched the traditional main game in favour of a story-driven platformer where the foursome rolled around 3D worlds, interacting with the local monkeys and performing tasks. Of course there were still standalone floors to solve and minigames to play, so it didn't feel completely alien. The game, which was also released for the PS2 and PSP, was not created by AV. Instead, UK-based Traveller's Tales handled development duties while AV worked on the next entry, *Super Monkey Ball: Banana Blitz*. Keeping the tradition established with the first game, *Banana Blitz* launched alongside the Nintendo Wii in 2006. In many ways this was a back-to-basics affair with 100 new floors to tackle, but it did add two controversial new features: there were boss battles (yawn) and the monkeys could now jump (yikes). Furthermore, the game was now controlled using the Wiimote, which worked rather well once you'd acclimatised to it. Where the game really ran riot was with its minigames, as there were now 50 of the things! Sadly you could count the really good ones on a monkey's paw. The next Wii game – the 2010 release *Step & Roll* – dispensed with the boss battles and the jumping mechanic, which boded well. However, as the title indicates, it was primarily designed to be controlled using the Wii Balance Board and this proved to be a gimmick too far.

Fast forward to 2019 and a HD remake of *Banana Blitz* was released for current systems. While it was mostly well-received, some chins were scratched over why Sega chose *that* particular entry and not the classic GameCube games. Happily, the success of *Banana Blitz* has paved the way for the new release *Banana Mania*, which is a remake of *Super Monkey Ball Deluxe* (itself a compilation of the first two titles). No new *Super Monkey Ball* games have been announced so far, but at least the series has come full circle by reimagining the early games that made Sega's series so popular in the first place. ✱

» [GameCube] Multi-camera replays capture the moment you successfully finish a floor.

» [GameCube] *Super Monkey Ball 2* introduced a story of sorts which was rather Ei-Ei-Poo.

» [GameCube] One of the trickiest floors in the sequel involves a rotating GameCube. The goal is inside the disc compartment!

» [PS2] *Super Monkey Ball Deluxe* was essentially the first two games with extras.

SUPER MONKEY BALL: STEP & ROLL

FORMAT: WII ■ YEAR: 2010

■ We wonder how many people bought this because their Wii Balance Board was gathering dust. Safe to say it's the least accurate control method ever devised, but at least you can ditch it for the Wiimote – at which point it becomes a clone of *Banana Blitz*. Skip it.

SUPER MONKEY BALL BANANA MANIA™

HOW DO YOU UPDATE A CLASSIC LIKE SUPER MONKEY BALL? ONE MAN WHO KNOWS IS MASAO SHIROSAKI, PRODUCER AND DIRECTOR OF BANANA MANIA. HERE HE TELLS US HOW HE APPROACHED THE NEW REMAKE

» [PC] All 12 on the minigames from *SMB 2* return, including the enjoyable Monkey Soccer.

» [PC] The visuals have been given a gorgeous new makeover, making the already colourful originals look even more vivid.

» [PC] Bananas are once again on the menu, but now there are also Dark Bananas which you need to avoid.

» [PC] GonGon negotiates one of the volcanic magma stages that originally appeared in *SMB 2*

» MeeMee pictured with Masao Shirosaki, the game's producer and director.

***Super Monkey Ball* is back.** The revival began in 2019 with the release of *Banana Blitz HD*, an update of the Nintendo Wii game. And in October 2021 it was followed by *Banana Mania*, a modern remake of *Super Monkey Ball Deluxe*, the 2005 compilation that brought together the two classic GameCube games. It's a great time to be a Monkey Baller. But if truth be told, the series has never really gone away. In the 21 years since the first game debuted, there have only been seven years when there hasn't been some kind of release, be it on console, handheld or mobile.

The series is currently overseen by Masao Shirosaki, a designer at Sega's Ryu Ga Gotoku Studio who has previously worked with *Super Monkey Ball* creator Toshihiro Nagoshi on the *Yakuza* series. Shirosaki reveals that Sega had been looking at the series for several years. "There was actually a plan to remake *Super Monkey Ball* even before the production of *Banana Blitz HD*," he says. "However, our staff couldn't find the time for it and the project didn't go anywhere. Then after I had finished working on the [*Yakuza* spin-off] *Judgment* and was thinking about what project to work on next, I heard there was an idea to revisit *Super Monkey Ball*. That's when I decided to create *Banana Blitz HD*. I remember talking a lot with Nagoshi about the series back then."

Those conversations no doubt touched on the level of challenge in the original games, and whether it should be simplified for the remakes. Addressing our concerns, Shirosaki says, "The gameplay is very well established so for *Banana Mania* I focused on improving the visuals to fit the current trend, while also enhancing the usability." Usability? "I've included various support features in the main game. I worked on this title thinking that instead of simply changing the stages to adjust the difficulty, I want to give players the experience of gradually getting better at the game, even if that means using the support features." Thankfully it seems that these support features designed to help the player are optional.

New modes and options have also been added to ensure that even long-time fans will experience something new. "It can be boring just to play the main game so we've prepared a lot of missions," Shirosaki continues. "There's also a customisation feature that lets you change your character's outfit to your liking, and we've added a new photo mode. We've also added modes that let you play in a different way. For instance, in *Super Monkey Ball* you normally collect the bananas on a stage, but there is now a Dark Banana mode where you now have to do the opposite and try not to

get those bananas. The 12 party games have also been upgraded so please look forward to that as well. Finally, characters like Jet and Jam that appeared in previous entries are back along with AiAi and his friends."

One benefit of working on remakes like this is that you don't have to create everything from scratch. "We were able to use the stage data from the original games. However, the oldest stages are [over] 20 years old so we were not able to use the visuals as they were. The visuals have been remade to be very colourful and maintain the style from *Banana Blitz HD*. It was fun to see the stages become more colourful. I also brainstormed ideas with the designers in charge of the stages. I'm sure those who know the original games will have fun looking at what has changed."

Shirosaki is mindful about making too many changes to the original stage designs, as he appreciates that they're key to the enduring appeal of the series. "The level design makes you love *Super Monkey Ball* more and more as you keep playing. Even though this game has very simple rules, when you actually try to play it, it's not so easy. Nowadays you can watch videos on sites like YouTube and I'm surprised to see the different ways to beat the stages. I think the number one reason for the appeal is that the level design allows for that kind of experimentation. I've actually asked Nagoshi about anecdotes on the stages and he said that they were designed by staff who had majored in architecture. This kind of deep knowledge and skill was used in the level designs and I believe that's why it is loved by so many people over such a long period of time."

"I WANT TO CREATE A NEW SUPER MONKEY BALL GAME... I HAVE IDEAS ON WHAT IT COULD BE LIKE"
MASAO SHIROSAKI

So with *Banana Mania* being released to celebrate the 20th anniversary of the first game's release, where will the series go next? "As this game and the previous one are remakes, I do feel that I want to create a new *Super Monkey Ball* game," reveals Shirosaki. "I have ideas on what it could be like. I'm looking forward to seeing how *Super Monkey Ball* will grow." He won't be drawn on the details, but we wonder whether we might finally get to play *Banana Crazy*, the fabled third game in the series that was originally slated to appear on the GameCube in 2004?

One thing is certain: nothing will happen any time soon if this new version of *Banana Mania* doesn't do the business for Sega. "This is not something I can do on my own, so I would like everyone to first enjoy *Banana Mania* and if there are enough voices looking forward to the next title, it may come true. I have been looking at everyone's reactions on social media and no matter what language it's in, I always translate it and read through them. I would be overjoyed if we could create the future of a new *Super Monkey Ball* together." ✱

Super Monkey Ball: Banana Mania is available now for consoles and PC.

» [PC] Every one of the key characters appear, including YanYan who made her debut in *Banana Blitz*.

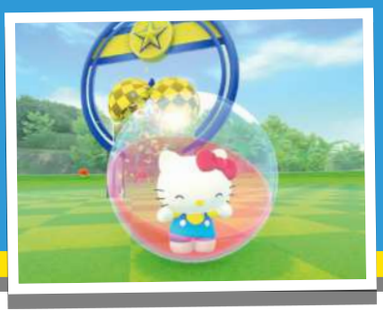
MORE THAN MONKEYS

WHICH CHARACTERS ARE GUEST STARRING IN THE NEW GAME?

■ You may remember that Sonic The Hedgehog joined the monkeys in *Banana Blitz HD* (which memorably changed the bananas to gold rings when you played as him). Well the spiky blue one returns in *Banana Mania*, only this time he's joined by sidekick Tails and a bunch of new characters. "There are a lot of appealing characters at Sega, so I wanted as many to appear as possible," says Shirosaki. "We had Sonic join the previous title and he was extremely popular, so we decided to have Tails join in this time. We also have Beat from *Jet Set Radio*, which still has a large fanbase. And as the creator of this series, Toshihiro Nagoshi, is the same as the *Yakuza* series, we decided to have Kazuma Kiryu join in as well. This time we were also able to collaborate with characters from other companies in the form of DLC, so you'll be able to play as Morgana from *Persona 5*, Suezo from *Monster Rancher*, and everyone's idol Hello Kitty. Seeing all these characters moving around in the *Monkey Ball* world shows how much potential it has and how welcoming it is."

For the Sega devotees among you, the *Deluxe Edition* lets you play as a Game Gear, Saturn or Dreamcast. "Personally I was so happy to see the Sega consoles in there. It just leaves a big impression to see them in a ball, and it's funny. You can also get emotional remembering the days when you played on those consoles [laughs]."

» [PC] Some characters are free to play (Sonic and Tails are unlockable, for instance), while others will be available as paid DLC.



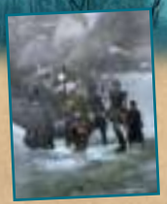
THE MAKING OF

THE LORD OF THE RINGS™ THE TWO TOWERS

HUDSON PIEHL

JASON EPPS

SCOTT EVANS



IN THE KNOW

- **PUBLISHER:** EA GAMES
- **DEVELOPER:** STORMFRONT STUDIOS
- **RELEASED:** 2002
- **PLATFORM:** PS2, VARIOUS
- **GENRE:** ACTION

IN ANTICIPATION OF ONE OF THE MOST AMBITIOUS MOVIE TRILOGIES OF ALL TIME, STORMFRONT STUDIOS SOUGHT TO CAPTURE THE CLIMATIC FEEL OF THE LORD OF THE RINGS IN THE FIRST GAME BASED ON PETER JACKSON'S VISION. WE FIND OUT HOW IT WAS ACHIEVED

WORDS BY AARON POTTER

DEVELOPER HIGHLIGHTS

ANDRETTI RACING
SYSTEM: PLAYSTATION, SATURN, PC
YEAR: 1996

LEGEND OF ALAN D'AR
SYSTEM: PS2
YEAR: 2001

FORGOTTEN REALMS: DEMON STONE (PICTURED)
SYSTEM: PC, PS2, XBOX
YEAR: 2004

For most fans of Tolkien's literary masterwork there exists two moments in time: the period before Peter Jackson's epic movie trilogy graced the silver screen, and the period after. All three movies were considered a cinematic triumph upon release, affectionately breathing life into the world of Middle-earth unlike other adaptations had previously been able. *The Fellowship Of The Ring*, *The Two Towers* and *The Return Of The King* all did justice to one simple hobbit's journey to ensure good triumphed over evil. Jackson's vision has gone on to influence a whole gamut of high-fantasy fiction in the two decades since. It was only a matter of time, therefore, until *The Lord Of The Rings* made the jump to videogames. But imagine trying to do so before a single frame had been filmed.

This was the exact situation EA Partners' Scott Evans found himself in circa 1999, when the publisher had learned of New Line Cinema's plans to adapt *The Lord Of The Rings* into three movies. "We were huge fans of the book and Peter Jackson's work so we were immediately interested," says Scott regarding those early days. "[New Line] sent a copy of the scripts which we devoured – we were blown away by what we read so it was an easy creative decision to sign the rights. Within EA we excitedly proclaimed to execs that we had found the next *Star Wars*."

> "WE WERE HUGE FANS OF THE BOOK AND PETER JACKSON'S WORK SO WE WERE IMMEDIATELY INTERESTED"
> SCOTT EVANS

Upon seeing those stars potentially align, Scott and the rest of the EA Partners subdivision got to work trying to find a suitable developer to make the game. They eventually arrived at Stormfront Studios, a team that was (up until that point) primarily known for sports games. Ranging from annual *Madden* ports for the PC, to a line of *NASCAR* games for the PlayStation and a suite of Tony La Russa licensed baseball titles, the California-based studio already had an established relationship with EA. However, it was the team's work on action RPG *The Legend Of Alon D'ar* that most caught the publisher's attention.

"At the time, *The Legend Of Alon D'ar* was in development and the technology and storytelling approach was compelling," says Stormfront's Hudson Piehl, who would eventually become project director on the official *The Lord Of The Rings: The Two Towers* videogame. "That, our success managing the sport titles and our proximity to EA's headquarters were positives in the studio's favour."

» [GameCube] You may not get to play as Frodo, but *Two Towers* accurately depicts the ring's ability to turn him invisible.

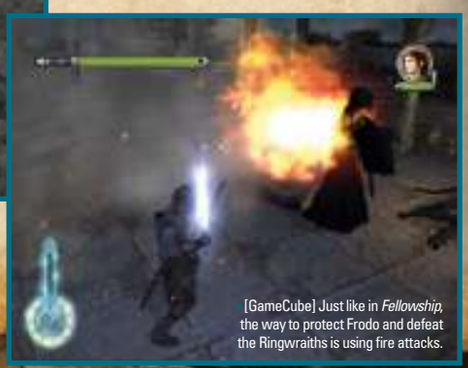
The Legend Of Alon D'ar would only go on to receive a mixed critical reception, but greater things were in store for Stromfront's next release. Even if it meant bucking the trend for how people viewed movie tie-in games at the time.

Official work on *The Lord Of The Rings: The Two Towers* began incredibly early; almost a year before *The Fellowship Of The Ring* would arrive in cinemas, in fact. Having so much runway, though, led to a tricky situation for Stormfront: how do you create a game based on a set of movies that haven't been released yet? The studio had unprecedented access to certain film elements, such as the aforementioned script and storyboards, but even this wasn't enough to recreate specific character moments and set pieces to the extent that they'd be recognisable to moviegoers.

This led the game's initial design to start off as a combination of the film and books. Until it was made clear that, even with over a year's prep, it'd ▶

» [GameCube] The Caradhras Pass chapter is one of the few where you're accompanied by an AI partner. In this case Gimli.

» [GameCube] *The Two Towers* starts all the way at the beginning, with you playing as Isildur in the fight against Sauron.



[GameCube] Just like in *Fellowship*, the way to protect Frodo and defeat the Ringwraiths is using fire attacks.

BIG BATTLES MINIATURISED

FOLLOWING THE EPIC FANTASY ADVENTURE ON GAME BOY ADVANCE

Taking place from a top-down isometric perspective, the GBA version of *Two Towers* was handled by Griptonite Games and is a very different kind of action RPG to the one enjoyed by players on PS2, Xbox and GameCube. For one, it features slightly more playable characters than what is seen in the home console version, with Aragorn able to summon the help of Gimli, Frodo, Sam, Gandalf, a great eagle and so on. There's also the inclusion of a loot system, wherein the different gear you come across can raise your character's damage, critical hit chance and defence stats.

The combat does suffer from being a bit too button-mashy as a result of the GBA's limited controls, but the promise of upgrading your equipment helps keep you interested. Much of your time is spent travelling from location to location, hunting down items and engaging in combat encounters. Some of the latter can be tough when enemies start to swarm. However, you can always sacrifice mana to replenish your health in true fantasy RPG fashion.

The game's pixel art is surprisingly smooth, though, even today. Characters like Gandalf look great while roaming the likes of Amon Hen and Caradhras Pass when battling orcs and devilish birds. Equally impressive is how well Howard Shore's iconic soundtrack from the film has been adapted. It's still extremely recognisable in the chiptune format that pipes out of the GBA's modest speakers, and is indicative of Griptonite's eagerness to immerse you in Middle-earth despite the smaller format.

CHOOSE YOUR HERO

FIGHT FOR THE FELLOWSHIP AS ARAGORN, GIMLI OR LEGOLAS

GIMLI

Gimli's short stature is more than made up for by the amount of damage he can let loose using his trademark axe right from the very off. The large arc of his swing makes him a good choice for dealing with groups and enemy clusters, while his throwing axes are just OK unless upgraded later.

ARAGORN

As the one true king of man and Isildur's proper heir, Aragorn handles like an ideal mixture of both speed and brawn. His ability to pack a punch with his sword makes him good for up-close bouts, yes, but equally his archery skills are there for when you need to punish orcs from a distance. A great all-rounder.

LEGOLAS

Featuring the grace and accuracy you'd typically associate with an elf, Legolas is most dangerous when unleashing arrows at range (and not just because he carries double the amount Aragorn can). His quick attacks using his two long white knives don't render him as much of a melee master compared to the others, though he'll get the job done.

» [GameCube] Most of the trilogy's actors lent their voices to Stromfront's game, adding to its authenticity.

» [GameCube] The developers initially didn't know what Wargs looked like until close to when the movie was nearing completion.

▶ be impossible to launch a videogame alongside Peter Jackson's adaptation of *The Fellowship Of The Ring*. "We realised early on, we couldn't come out with the first movie," notes lead designer Jason Epps, "so we aimed for release with the second film in the series." This extra breathing room would allow Stormfront to incorporate elements from both *Fellowship* and *The Two Towers* into its game. Hudson concurs, "Clearly all the material we were going to receive during year one was going to be from the first film. It seemed obvious to take advantage of all that material, so the game became a blend of both."

Such circumstances explain why, despite explicitly being named *The Lord Of The Rings: The Two Towers*, the game begins all the way back during the first film's prologue. Recreating events that take place ahead of Frodo's journey to take the ring from Bag End to Mordor, players learn the combat basics while playing as Isildur – punctuated by Cate Blanchett's hauntingly epic narration, directly lifted from the movie. Starting here may have baffled players who purchased the game expecting to begin with Aragorn, Legolas and Gimli's Uruk-hai pursuit, but it certainly made for a bombastic opening that could suitably attract players both new and familiar.

For as rocky a reputation as licensed games had, the turn of the millennium marked a time where movie studios were willing to work closer with developers than they ever had done. Warner Bros had given free rein to Atari for its work with *Enter The Matrix*, for instance, and the same could be said for EA and Stormfront's time developing *The Two Towers*. As Scott recalls, "In our first meeting with Peter he talked about his favourite games including *Medal Of Honor*. I remember how he described his fascination with Tolkien's description of the Mines Of Moria – he was captivated by the idea that a person could get lost within the vastness of it and perhaps never emerge."

Everyone who spoke with the film's crew or eventually got around to seeing the first movie

» [GameCube] Gandalf appears to briefly assist you. However, he wouldn't be playable until the sequel.

agreed with Jackson that Moria would make for a great sequence in the game. This resulted in a chapter that would see players battle it out against legions of unending orcs and the infamous cave-troll while exploring Balin's Tomb. Unfortunately, Hudson says there was originally more to it. "One element that was painful to cut was an imagined level based on the Balrog sequence in the Mines Of Moria. The scene is visually stunning and the art team had spent a great deal of time on the Balrog, which you can imagine is very difficult to render on a PS2. We all felt for them when we had to cut the idea because of the tight schedule."

Cuts aside, *The Two Towers* ended up being an accurate translation of the trilogy's first two movies. Players get to fight as the three main heroes in Aragorn, the elf Legolas and dwarf Gimli, hacking away and shooting arrows against hordes of enemies using simple but effective hack-and-slash combat. Keeping things interesting, however, was the slight difference in dynamics found amongst the three, in addition to an RPG-lite levelling-up system that would let players unlock new skills and more complex combos.

Helping to separate the game's combat from other hack-and-slashers a little was the built-in feedback system, which would grade players' kills from 'Fair' to 'Perfect'. Much like how Gollum first came across the Ring Of Power, Jason Epps came up with the idea in perhaps the unlikeliest of places. "I was playing a lot of *The Addam's Family* pinball," he reveals, "and loved how unskilled players could feel good playing it by getting points, and yet more skilled players could show their mastery through point totals that were radically higher. Later I came to call this concept additive as opposed to punitive game design: reward players but also reward players who show mastery exponentially."

All three of the game's playable characters handle similarly, but it was still important for Stormfront to demonstrate the different strengths found in each through gameplay. Legolas being an elf may dish out lighter attacks but is swifter on his feet. Gimli, meanwhile, like his weapon of choice, handles a bit more like a battle axe. Then you have Aragorn, who is a great all-rounder and a competent mixture of the two.

"Our simple creative vision for the gameplay of *The Two Towers* was '*Golden Axe* meets *The Lord Of The Rings*,'" expresses Scott. "Anyone who remembers this classic Sega brawler will recall that there were three characters who each had unique fighting styles, which made the game super fun to play over and over." Achieving this balance still posed its challenges, as both Jason and Hudson agree that Gimli was the toughest to make interesting. "Legolas is obvious with his bow and ranged attacks," reveals the latter. "Gimli was harder, so we focused on his enormous strength versus Aragorn's finesse."

With such direct access to Jackson, Howard Shore's triumphant score and all the character's original voice cast returning, *The Two Towers* never struggled to stay authentic. You only need to look at how it managed to capture the impressive scale of the now iconic Helm's Deep battle for evidence of this, which ended up forming the game's three end chapters. Stormfront had the difficulty of depicting Saruman's 10,000 strong army of orcs and Uruk-hai on PS2/Gamecube era tech, which inspired the studio's engineers to input some extremely creative workarounds.

"We used 2D sprites in the background of the battles to give the illusion of scale," says Scott. "These sprites had no geometry so they didn't consume much rendering overhead. We filled the screen with them which provided the illusion that thousands of enemies were attacking." Speaking specifically to the Helm's Deep battle, "These sprites made it feel as if a horde of Uruk-hai were attacking the fortress and that it was about to be overrun at any moment despite the heroic efforts of the player." Even today, the transition from film cutscenes straight to action is astonishingly effective. "Many elements in the background are simple animating sprites but give the illusion of depth," Hudson sums up.

> "WE USED 2D SPRITES IN THE BACKGROUND OF THE BATTLES TO GIVE THE ILLUSION OF SCALE"
> SCOTT EVANS

The Two Towers was – and still is – held up as one of the very best examples of a movie tie-in game. Having launched on 21 October 2002, a full two months before the film version, it gave diehard fans an effective way of role-playing as their favourite characters. They could also briefly inhabit Middle-earth's richness at a time when games based on Jackson's interpretation were few and far between. Is it any wonder, then, that there are constant calls for a remake? "A dinosaur like me will gladly play it," jokes Hudson.

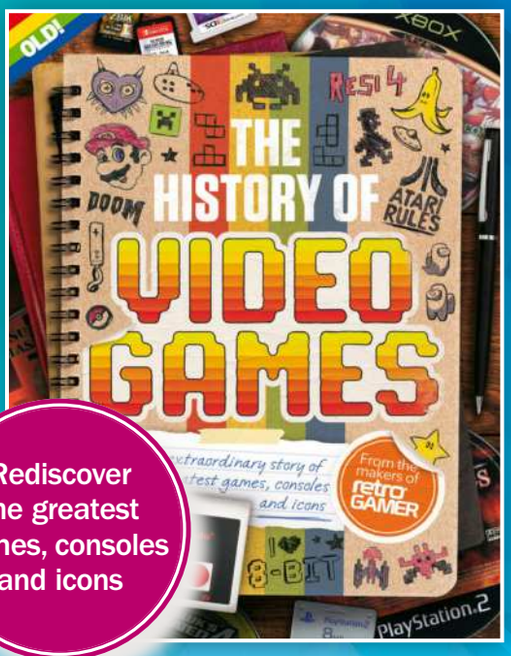
Due to timing restrictions and the ambition to go bigger, EA ultimately decided to handle development on *The Return Of The King*'s tie-in game internally at Redwood Shores. Despite this, all those involved think back to their experience making the game fondly. "It didn't matter that some of us were from EA and some were from Stormfront," concludes Scott. "We sat together, ate together, and strived together to make something awesome that we'd be proud of. Myself and Hudson were completely dedicated to the idea of 'one team' and we strove to make that happen." ✱

» [GameCube] Uruk-hai enemies differ to orcs, in that they require heavy attacks to be taken down.

» [GameCube] Lurtz went and killed Boromir, so there's no surprise he was elevated to the status of boss battle.

» [GameCube] Taking down the hulking cave-troll requires more than a simple arrow to the knee.

» [GameCube] Stormfront relied on technical workarounds involving 2D background sprites to achieve the large sense of scale seen in the impressive Helm's Deep sequence.



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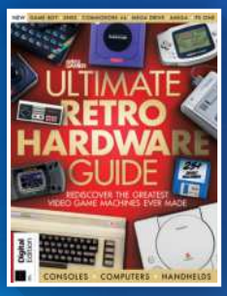

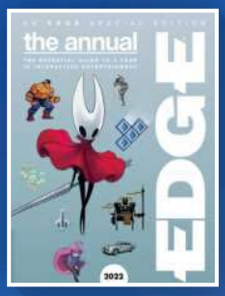

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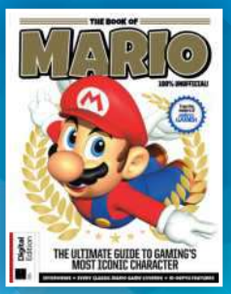

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